AMERICAN
Cinematographer
THE MOTION PICTURE CAMERA MAGAZINE

25¢
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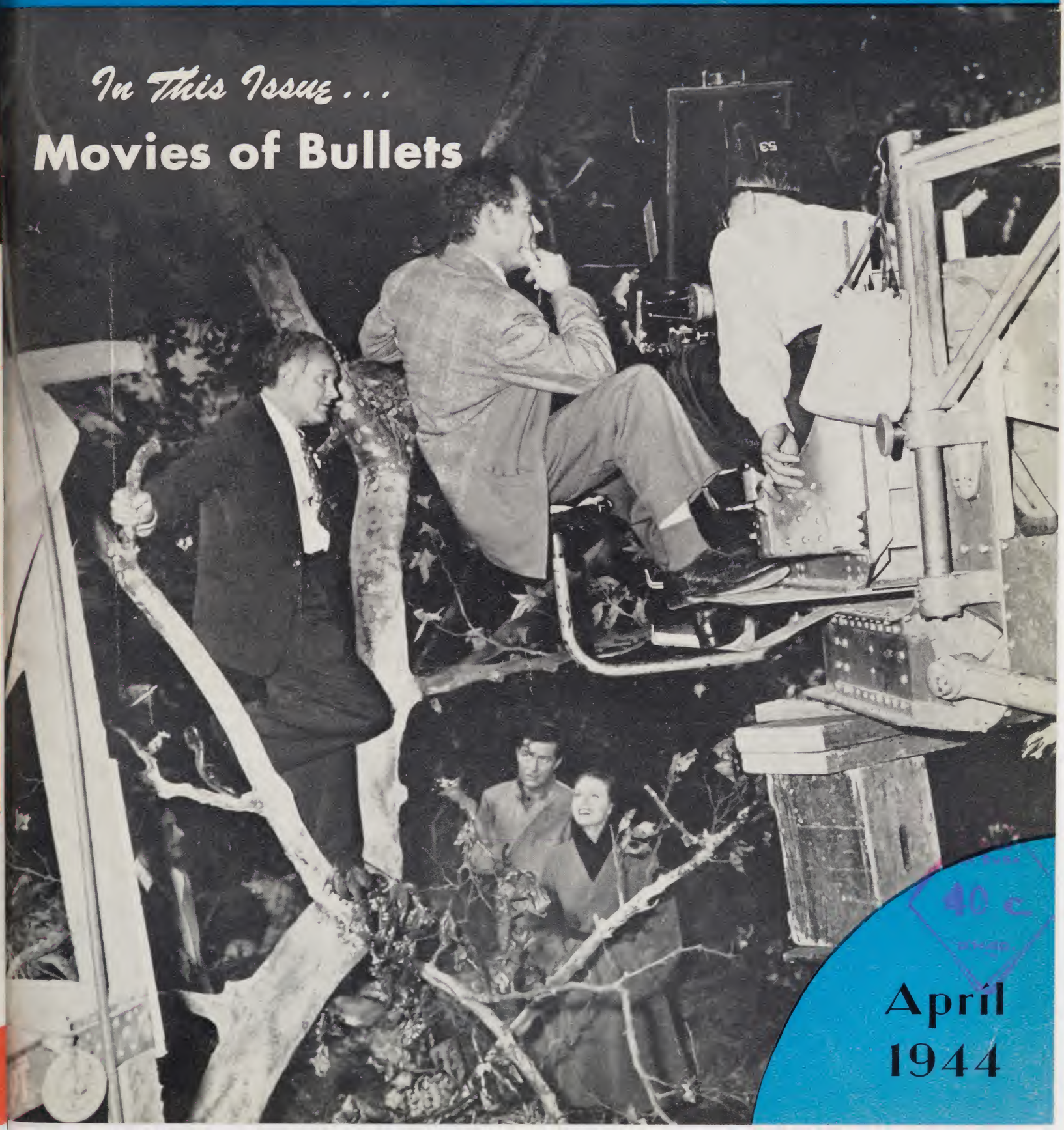
In This Issue . . .

Movies of Bullets



April
1944

AMERICAN CINEMATOGRAPHER

THE MOTION PICTURE **CAMERA** MAGAZINE

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CONTENTS

THE FRONT COVER shows Director of Photography THEODORE SPARKUHL, A.S.C., lining up a shot for Paramount's *"Till We Meet Again."*

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Movies of Bullets

By R. H. BAILEY

WALLACE BEERY'S 1932-made movie, "Hell Divers," is more responsible than any other one factor for the design and principles of the present aerial machine gun movie camera.

It happened when some officials of the Brazilian government saw the Beery show, in which U. S. Navy gunners were shown in training, using a camera machine gun of the early vintage. Beery supplied the comic relief by managing to photograph only sea gulls, whereas the infallible hero always managed to show direct hits on "enemy" planes.

The Brazilians were so struck with the untold possibilities of this device that they instructed a Brazilian purchasing mission, then in the United States, to get in touch with the Fairchild Camera & Instrument Corp., which supplied Brazil with aerial cameras. This mission asked Fairchild if it were possible to make a similar kind of camera gun for them. Incidentally, the Navy camera machine gun was restricted at the time, making an independent development necessary.

A Fairchild engineer, John P. Gaty, set about making a new design. It was completed in 60 days and was destined to foreshadow and influence all U. S. Army and Navy standard equipment in this line. This model, like earlier cameras of the type, simulated an actual machine gun, for better training practice—or so it was thought at the time—but it used the more economical 16-millimeter film instead of 32mm., it shot at the same rate of a regular machine gun (16 shots per second), and it had an interchangeable, removable film magazine. In order to determine whether proper sighting was used, each photo was marked with a cross, the center of which indicated an optical line of flight which would be taken by a real bullet from a regular gun.

There were other far-reaching improvements and innovations, the Brazilians were pleased, and shortly the idea caught on like wild-fire and the camera was being sold to every country in the world with an air force, except Germany and France, including the U. S.

From this famous model, called the CG-16, the Americans have developed scientific gunnery techniques which have made us famous. The Navy specified some changes in the design and thus was inaugurated the first fixed gun (the Mark 6) as well as a unit less sights for wing mountings in a streamlined case (the Mark 7). The Army versions were known as the H-1, H-2 and H-3, variations of the Mark-6 and 7.

In 1938 the fixed gun changed its shape radically, paving the way for the Fairchild Type, in use on U. S. air forces planes now. Our armament designers felt there was no point in continuing to have the camera look like a machine gun, because, now that it was being operated by remote control, the gun suggestion was valueless to the pilot. The armament laboratory at Wright Field wrote detailed specifications for a new model, severely limited in size and weight, and the present camera, about the size of a cigar box and weighing 3½ pounds loaded, came out of the Fairchild plants in New York as the result. This time, incidentally, the designer was Clinton B. Gaty, now a lieutenant-colonel in the army, and a brother of the original Fairchild designer.

Today's pint-sized aerial gun camera (other aerial cameras, for reconnaissance and mapping photos weigh from 40 to 200 pounds), is a model of compactness. Smaller than a home movie camera, it is operated successfully in temperatures ranging from 160 degrees above zero to 65 degrees below. The body contains the shutter, the motor, and the film magazine, loaded with a maximum 50-foot roll of 16-millimeter film, allowing 2,000 exposures. A reset knob can vary the speed from 16 to 32 or 64 frames a second. A heater unit, controlled by a thermostat, operates at between 40 and 90 degrees—a unit very important for high-altitude and low-temperature photography.

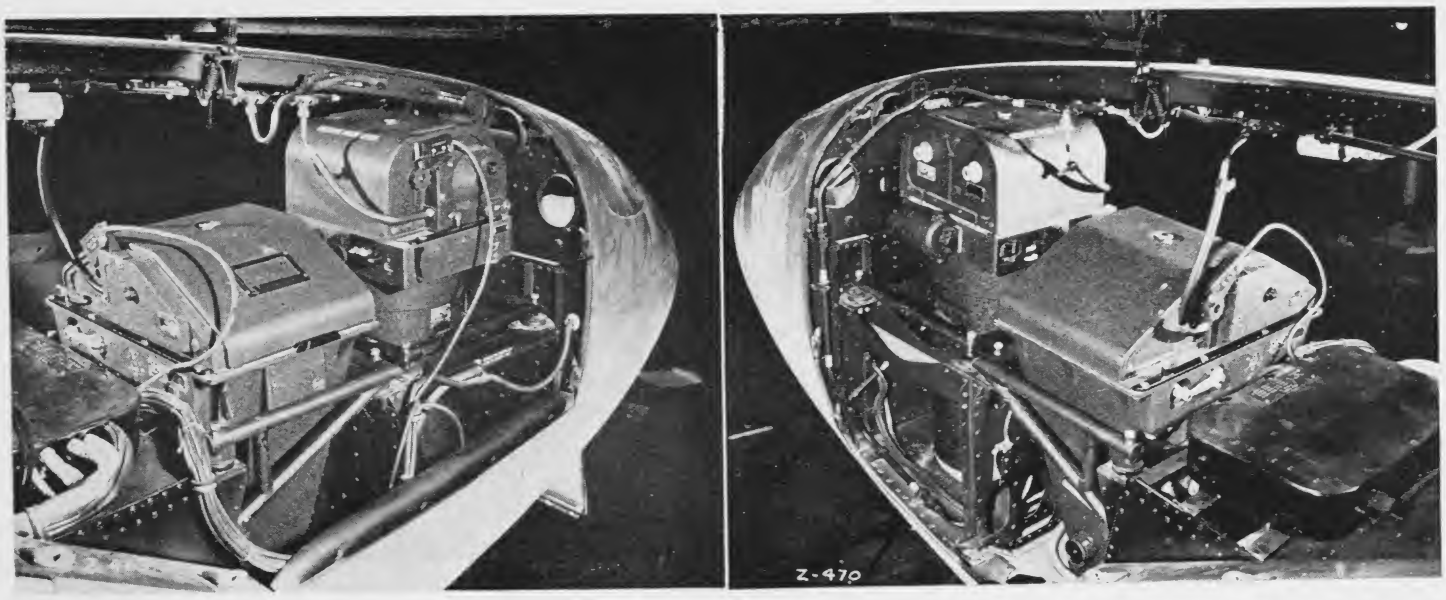
Mounted either in the wing, in the fuselage, or behind the gunsight, the camera is wired into the plane power source so that when the gun trigger switches are closed the camera is simultaneously operated. Further, the camera is so mounted that its lens points in the same direction as the machine gun and "hits" the enemy plane in exactly the same spot. When the guns stop firing the camera continues to operate three seconds longer to photograph the last of the stream of bullets and register final hits, this is accomplished by a timer unit called an over-run device.

The importance of the part the new camera will play in the war is evident from a recent statement by a high military authority to the effect that approximately 85 per cent of everything we know about the enemy is due to photographic reconnaissance. Photographs taken from the air over enemy territory record the locations of enemy installations so that our forces know how to deal with the defenses of positions they plan to attack. This ability to know in advance what conditions must be met has resulted in the saving of thousands of lives.

Here is the aerial movie gun camera developed by the Fairchild Camera and Instrument Corporation.

Also of great importance to the military leaders are the photographic reconnaissance pictures taken after bombing raids to show the extent of damage done to the enemy's cities, industrial establishments and military installations. Without pictures taken from the air we would not have known the extent of our success in the big bombing of Truk. Neither would our forces have known when the Jap held naval base was most filled with important shipping.

Sometime previous to the start of the present war Nazi General Werner Von Fritsch stated, "The military organization with the best aerial photo reconnaissance will win the next war." It is now evident that the Allies are winnig this war, and it is quite evident that American photographic equipment, American photographers and American plane builders are playing a geat part in the coming victory.



Above, two views of the nose of the Lightning F-5, fully equipped for aerial observation. Below is the new camera ship as she looks in the air. (Photos approved by War Department.)

Camera Planes Win Wars

BRISTLING with guns, the Lightning P-38 has won the unqualified respect of the Axis on all fronts as the world's most versatile fighting craft. Now, armed with cameras instead of cannon, a new version of the P-38 is winning battles in still another role—as the eyes of the Army Air Forces.

This Lightning was chosen for its speed and maneuverability as the spearhead of the AAF's experiments in high-speed reconnaissance.

Its effectiveness as an aerial weapon established, the War Department and the Lockheed Aircraft Corporation now can announce details of the photo plane, known as the Lightning F-5.

In wide use on all combat fronts, the photo pilots are streaking across hostile skies on one of the war's most dangerous missions—that of finding out what the enemy is doing and what we have done to the enemy.

Commenting recently on the important work of the recco planes, Gen. H. H. Arnold, chief of the U. S. Army Air Forces, declared that in some circumstances a P-38 with cameras had rendered more important service than a P-38 with guns. "Our photo-reconnaissance pilots are instructed," he said, "to fly on the theory that fighter planes win battles, while camera planes win wars."

Photo reconnaissance pilots, labelled Focus Cats, must get to their objectives, eluding enemy pursuit planes, wade through flak to take their pictures, and then get back to base in the shortest possible time, without benefit of guns to fight off attackers. They must be able to soar to substratosphere heights for some pictures; dive to roof-top levels for others. The F-5 measures up to all of the requirements of the job.

Stripped of its armament, the Lightning F-5 is several hundred pounds lighter than its fighter counterpart and is capable of an added 10 miles per hour speed with greatly improved flight characteristics. It carries a battery of charting and reconnaissance cameras with lens varying from 6 inches to 40 inches. They are controlled by an electrical impulse unit and may be operated singly or collectively.

Latest device in use by the Focus Cats is a shutterless continuous-strip camera. Used on low level flights, it takes not a series of snaps but one long, uninterrupted flow of pictures. The film winds past a narrow slit in the camera, its speed synchronized to the speed and altitude of the plane. Flying at less than 200 feet, below anti-aircraft range, the Lockheed F-5 can photograph large areas and, with its intense speed, get away before enemy gunners can adjust their aim.

The job of a recon pilot requires a tremendous amount of skill. The pilot must know navigation as the navigator on a bomber knows it. He must be able to do all of the tricks that a fighter pilot can do with a plane and then some, since he is unarmed. He must be able to make his run on an objective with the same accuracy that a bomber approaches a target. Flying high altitude reconnaissance, an objective seen at 30,000 feet offers a small target at which to aim a camera.

The job of high altitude reconnaissance presents certain other problems, too. There is the question of temperature, for even at the equator, at a height of 30,000 feet, the mercury drops to almost 50 below zero. Accordingly, cameras and film used for high altitude work are kept warm in heated compartments, protecting the cameras from the extreme cold.

The problem of haze and overcast is overcome by the use of special light filters and by using infra-red film but clouds may necessitate diving through a hole in them to catch a fleeting snapshot of the objectives.

(Continued on Page 126)

Aces of the Camera

KARL FREUND, A.S.C.

By WALLY BOSCO

TO really write the story of Karl Freund, A. S C., would be to all intents and purposes, to write the history of the development of the motion picture artistically and technically. To speak of his talents would be to read a roster of those abilities inimical to picture making. Laboratory technician, sound engineer, color expert, writer, director and inventor, he presides at the camera with authority and finesse. The complete understanding that is his of all the elements of the motion picture gives his camera work a polish and artistry that is peculiarly his own. "The Good Earth," which a few years ago won for his home studio a batch of Oscars as the best picture of that year, brought Karl one of the gold statuettes for best photography. But all his photography is good. And students of the art never miss a picture that he has photographed because even if the story fails to please them they can always sit back and enjoy an exhibition of cinematography at its best.

A case in point was "Du Barry was a Lady," which, for even the most ardent Skelton enthusiasts, fell pretty far short of being entertaining. The critics disposed of it in short order, but in many instances found space to speak with enthusiasm about the color photography, which, to quote one reviewer, " . . . should be seen by anyone interested in the use of color photography by one of the really great cameramen." And who goes on to say, "Freund concentrates on getting the utmost out of the textures of the costumes and settings . . . This is especially true where he reproduces the silks and satins, and the wonderful powdered wigs, in a manner which inevitably reminds us of the work of Rosalind Maingot in the world of the monochrome exhibition picture. The portraits of Lucille Ball are similarly delightful in their pink-and-white porcelain style."

His "Blossoms in the Dust," done in '41 with W. H. Green of Technicolor, still ranks as one of the finest color films produced. "Tortilla Flat," in black-and-white, was not only a masterpiece of pictorial composition but the camera contributed enormously to the excellence of the picture as a whole by its subtle mood interpretations and creation of atmosphere.

One could go on and on. It is impossiblt to write about Karl Freund the man without writing about his pictures, because it is only through this medium in which he is so much the master that we can get an insight into the multifaceted nature of this talented Czechoslovakian.

His pictures started making cinematographic history a long time ago and startled a movie-conscious world into a new and higher estimate of the motion picture as an artistic and dramatic medium. "The Last Laugh," starring Emil Jannings, which he made in 1925 in Berlin, crated a new standard of camera excellence. In this picture the moving camera, bringing to the screen a more flexible, more sensitive interpretation, was used for the first time. And, because of the European practice of giving adequate credit to the cameraman for the contribution he has so obviously made to a picture's success, Karl Freund had made a name for himself. A name that was further enhanced by his work on such pictures as "Metropolis" and "Berlin."

When the film, "Berlin, The Symphony of a City," appeared on the screens it was hailed as a sensation. It is still a sensation; a picture of such consummate artistry it is ageless, and is preserved as a distinguished work of art by the Museum of Modern Art in New York.

"Berlin," a picture without stars, with no paid actors or actresses, using for the first time highly sensitized film for the shooting of street scenes at night without the aid of additional light, was made as a result of a provision Karl insisted be put in his contract when he took over the European production for Fox.

It happened this way. By dint of hard work he had achieved a reputation, but with the Fox contract he foresaw the possibility of being saddled with the responsibility for a lot of low budget "quota" pictures that would do nothing to enhance that reputation. The opportunity to make "Berlin" was the condition on which he signed the contract. He felt sure that no matter what else he had to make he could redeem himself with "Berlin." And he was right.

Some of the details incident to the story, and the making of that great picture are interesting to recall. It took over a year to make; there were no principals or characters in the accepted sense; no one who appeared in the picture knew that he was being photographed. The story concerned itself with a day in the life of a city, and was conceived and created in much the same way that a composer might write a symphony. It began with the first stirrings of life in a great city, and rose with increasing tempo to a crescendo of activity as by mid-day the pulse of city life beat most strongly. It portrayed vividly the complex, competing aims and ambitions of humanity, contrasting love and hate, greed and charity, virtue and vice. With hidden cameras, which sometimes waited days for the right shot, it provided glimpses into the most intimate lives in every strata of a city's society; the banker and stockbroker with their manipulations, ringing phones and ticker-tape; the prostitute with her sidewalk undulations; the thug in his underworld hangout.

(Continued on Page 124)

More About Reflectors

By GLENN R. KERSHNER, A. S. C.

BEING interested in 16mm. cameras and amateurs, I like to watch them. Often I see interesting—and sometimes very foolish—things.

Last Sunday, for example, while I was horse-back riding along the beach I noticed a young couple with a 16 mm. camera. The girl was beautiful, with a fine figure, large brown eyes, a wealth of golden hair and a smile worth pausing to see.

All this the excited young man was trying to capture on film. I watched him move in for a big head close-up. He posed her this way and that, each time taking a few feet of film. Watching her through his view-finder, he finally pressed the lever and as the camera clicked he told her what to do.

"A little farther around to your left . . . a little more . . . more."

He watched the bright sunlight creep over her nose until it was full on her cheeks. He smiled. That was what he wanted.

"Hold it, June," he exclaimed. "That's beautiful."

But before he had finished speaking her eyes closed, her head dropped forward and big tears fell to the sand.

"Hang it all, June, you spoiled a good shot," he shouted.

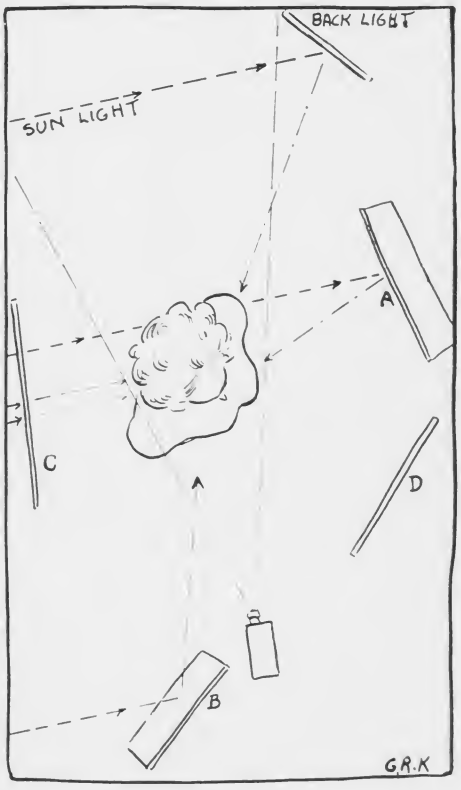
Shading her eyes, she replied, "I couldn't help it. The glare of that sun was simply terrible."

I had watched long enough, and as I rode away the young man was still trying to persuade the girl to repeat the same foolish pose; a pose which no camera enthusiast should ever attempt. Looking into the sun, into an arc light, or even into an open incandescent spot light can do more damage to the eyes than nature can repair in months. It is even worse with children and babies, for it may ruin their eyes for an entire lifetime.

Film today is so fast that this picture, with the same lighting effect, could have been made with the aid of a few small reflectors and stands. With these the yonng man could have posed the girl with her back to the sun, and had her look into the harmless sky for as long as he desired.

I could see that the young man was trying to get sort of a semi-night effect with the splotch of sunlight falling on the cheek next to the camera. To get that same effect he could have placed a *hard* reflector (silver foil) well above her head and a little back of her (see A in illustration), so that the reflected light will duplicate the original sunlight effect.

If there are no white clouds in the sky to give some reflected light for detail of her face, place a *soft* reflector (gold foil) at head height near the camera (B). If too much light, set it farther away from



her—have just enough light to see the detail.

Taking time to study the picture, he should by now realize that the direct sun light on her back and hair is too *hot*. This can be remedied easily by suspending a piece of mosquito netting or thin white cloth (C) between the girl and the sun, but be sure to place the frame holding it so that it will not cast an unwanted shadow into the picture.

(Continued on Page 128)

The Camera and Projector Of Tomorrow

By X. TOLL

AFTER the fighting (note that we do not say "after the war") manufacturers of cine cameras and projectors will be faced with two possibilities:

a—Carry on with the models made during the war, which are, in many instances, the pre-war models with a few alterations or improvements,

b—Scrap obsolete models, and plan something really new, taking care of their clients ultimate needs and desires. After all, if the client is, to the manufacturer's point of view, often wrong, it is his money which buys the goods.

With this in view, we hope that the following remarks will be found of interest, reflecting the view of an amateur. Our qualifications are: We have been a constant amateur cine-bug from 1928. We used or investigated the following makes of cameras: Pathé 9.5, Kodak and Bell & Howell 8, Kodak 16 Standard-16, Special, Magazine, Bell & Howell 16-D, Bowlex 16, Moviekon 16, Sept 35mm. Amongst projectors: Pathé, Kodaks, Bell & Howell, Ampro, Nizo, etc., either sound or silent.

THE CAMERA

1—Camera to be improved upon, as funds permit, or a camera with most improvements already included?

We do not quite agree with a scheme under which improvements could be added from time to time, as funds permit, though, at a first glance, it appears the right solution to many. Several arrangements could very well be incorporated, without great difficulty and super extra cost, by the manufacturers. The extra expenditures should come when special extra accessories are desired, such as extra lenses, filters, etc.

2—Turret head, sliding holder.

A turret head or sliding lens holder is definitely a convenience. Found that often 2 lenses are sufficient. True if one can accommodate more lenses, one can hold less. The revolving 3 lenses turrets are at times cumbersome. Personally would prefer a horizontal or vertical sliding lens holder to hold 2, perhaps three lenses. This would help for the centering and focussing through a sort of special side viewer, refer to 4 further.

3—Wind back and motor.

A wind back is a necessity, but same should be built in such a way that the motor could be disengaged or declutched to allow back rewinding as much as desired. Why not a camera with the spring motor as a separate unit which could be removed easily for adjustments, oiling, change if necessary as in the "Sept" for instance? Regarding the length: one full winging of the motor should take a minimum of 50′ for the 16 as well as the 8, or at least 25′ for the latter. With the removable motor a special electric unit could be had, if desired, and a hand crank.

4—Centering, correction of parrallax.

With a lens holder allowing the sliding of the lenses, it should be an easy matter to have a viewer permitting one to check the centering of the lens at the off known distance from the center, with cross lines in the center of the viewer. It could have a ground glass exactly at the distance from lens to filter, and a sliding magnifying tube for extra critical focussing.

For the general purpose viewfinder, we would rather favor an open viewer, allowing quick adjustment for lenses of various focal lengths. Such a viewer permits greater latitude as one may see what happens on the sides of the scene being shot, useful if someone or an object comes across the field (motor car, people, etc.) to be left out.

5—Spools—magazines.

We like the ease of loading with magazines, but definitely hate paying more for them than spools. It seems to us that it should be an easy matter to arrange, if the manufacturers would only make a thicker magazine which could hold and be loaded with the regular 50′ or 100′ spools (16mm.) Would see them with sprockets good for sound or silent films, as at times stock with perforations on one side only are procurable, when the regular is not.

6—Speeds.

Speeds should be accurate from the first picture. One should be able to have all the gamut 8-16-24-32 and 64. Single frame at the correct chosen speed. Starting button or lever with locking arrangement. Possibility of using a cable release, same allows the use of delayed action gadgets, if not incorporated in the camera. How often on hiking trips had we to run in the picture to give a scale and movement. We lost also many good pictures by handing the camera to a good still photographer, who immediately started moving the camera as if it was a jitterbug partner!

7—Footage indicator, length of film exposed.

Definitely we would like to have either an audible or visual arrangement to know, during the take, the length of film exposed, and more important, how many feet are left, this particularly when the 45-48 footage (16mm.) is reached. It gives leeway to change the magazine or insert a new reel before ending the reel. The footage indicator should be accurate, working correctly also when backwinding.

8—Adjustable shutter.

A shutter with an adjustable opening should be included. It would allow the possibility of reducing, to a correct known ratio, the shutter opening. This would allow increasing the speed of the take (obturation) without change in the motor speed, giving thus extra versatility. An automatic dissolving shutter, timed for 1, 2, 3 seconds, should not be such a difficult convenience to have.

9—Frame for Exposure Charts, Photo-Cell.

We seldom use exposure charts. The conditions vary so greatly at any moment—with the latitude, altitude, percentage of humidity in the air, period of the year, passing clouds, etc., that they can hardly be relied upon, specially when using color films. We recommend having a good photo-cell, independent from the camera. However, a frame for inserting the charts, for general work, or for memo sheets, would be an advantage.

10—Case—Metal parts.

A strong, light, conventional case is necessary. Metal parts, if any, to be impervious to sea water, humidity, etc. "Conventional" as odd shapes are not always convenient to handle, to attach on the tripod or the title board, and are, at times, too conspicuous.

11—Possible extras.

May we add also as accessories or in the unit. Prism to take pictures sideways, quite useful at times for shots of natives and friends alike. A reflex type viewer to take low shots coupled with a water or spirit level. A sunshade to hold various filters or combinations of filters. To standardize the most possible, particularly the screw base of the lenses of different makes and . . . we suppose we overlooked some highly important gadget which is used perhaps once in a lifetime!

THE PROJECTOR

1—Elimination of noise.

The projector should be silent as an Angel. This could certainly be attained by an intelligent use of plastic gears and housing, elimination or damping of all vibrations, etc. A glass window protecting the gate and sprockets, would allow the checking of the movement, with fluorescent inner paint of the moving sprockets and gate. This would have an extra advantage in keeping dust away.

2—Ventilation and lamp.

The lamp . . . we recall the difficulties we had to secure even 200 watt lamps in Australia! For ordinary home projectors could it not be possible to use motorcar head lamps with an adequate resistance or transformer? When bulbs are not procurable, perhaps to have the possibility of adjusting easily a small carbon arc. Evidently all escape of light should be impossible. Lamps to be easily removed from the lamp house and base.

(Continued on Page 128)

Left, Hal Mohr, A.S.C., receiving Academy Award for Color Cinematography on "Phantom of the Opera". Above, W. Howard Green, A.S.C., who shared honors with Mohr. Right, Arthur Miller, A.S.C., being presented with Award for best black-and-white cinematography of 1943. Oh, yes, it is Rosalind Russell presenting the "Oscars".

Academy Award Winners

ARTHUR MILLER, A. S. C., Hal Mohr, A.S.C., and W. Howard Green, A.S.C., carried away the cinematographic honors for 1943 by winning the famed Awards of Merit of the Academy of Motion Picture Arts and Science for the best black-and-white and the best color ciematography of the year at the Academy's 16th Annual Awards Presentation on the evening of March 2nd.

Miller won for his photography on "The Song of Bernadette," which he photographed for 20th Century - Fox. Mohr and Green shared the honors for color cinematography for their work on Universal's "The Phantom of the Opera." Winning Academy Awards for excellence in cinematography was not new to any of this trio, for all of them have won "Oscars" before.

Special Technical Achievement Awards also were won by Farciot Edouart, A.S.C., by Charles G. Clarke, A.S.C., and by the Photo Products Department of E. I. Dupont de Nemours & Company. Following are the specific Technical Achievement Awards as designated by the Academy:

Award in Class II (Plaque)

TO: FARCIOT EDOUART, EARL MORGAN, BARTON THOMPSON AND THE PARAMOUNT ENGINEERING AND TRANSPARENCY DEPARTMENTS FOR THE DEVELOPMENT AND PRACTICAL APPLICATION TO MOTION PICTURE PRODUCTION OF A METHOD OF DUPLICATING AND ENLARGING NATURAL COLOR PHOTOGRAPHS, TRANSFERRING THE IMAGE EMULSIONS TO GLASS PLATES AND PROJECTING THESE SLIDES BY AN ESPECIALLY DESIGNED STEREOPTICON EQUIPMENT.

This whole process from the utilization of the original color photograph to the projection of its corrected duplicate on a translucent screen has provided a successful, accurate and quick method of obtaining a relatively inexpensive natural color background which matches the foreground set. This results in natural color backgrounds projected with sufficient illumination for motion picture color photography, the use of which increases the scope of stereopticon backgrounds, reduces production costs and gives a more natural and improved quality on the screen.

TO: CHARLES GALLOWAY CLARKE AND THE 20TH CENTURY-FOX CAMERA DEPARTMENT FOR THE DEVELOPMENT AND PRACTICAL APPLICATION OF A DEVICE FOR COMPOSING ARTIFICIAL CLOUDS INTO MOTION PICTURE SCENES DURING PRODUCTION PHOTOGRAPHY.

This device provides a simple and inexpensive method of incorporating artificial clouds into an outdoor scene. The simplicity of the device and the fact that it allows action to take place above the horizon permits a greater freedom of action than is possible by the use of other methods intended for the same purpose. The result is an achievement of artistic and photographic excellence which might not otherwise be obtained.

TO: FARCIOT EDOUART AND THE PARAMOUNT TRANSPARENCY DEPARTMENT FOR THE AUTOMATIC ELECTRIC TRANSPARENCY CUEING TIMER.

This cueing timer, being interlocked into the camera projector system necessary for photographing transparency process shots, can be pre-set to permit exact cueing and automatic electric operation of special effects for matching to the split frame of foreground action.

TO: PHOTO PRODUCTS DEPARTMENT, E. I. DUPONT DE NEMOURS & CO., INC., FOR THE DEVELOPMENT OF FINE GRAIN MOTION PICTURE FILMS.

The development of fine grain motion picture films has made possible a significant improvement in the quality of sound and picture as heard and seen in the theatre. The physical characteristics of these films are such that the previously inherent film noise has been substantially reduced. This has made possible a more pleasing and faithful reproduction of the original sound and an enhancement of the quality and entertainment value of the finished picture.

Don't Forget Television

By JAMES LEAMAN

I STARTLED one of my friends, a producer of 16mm. industrial films (now war work exclusively) by suggesting that he'd better learn what he could about television right now because he might find himself in need of a post-war market, and I felt that television was a "natural" for the industrial film producer.

While the idea was a fresh one to him he, nevertheless, began to put some credence in it after I gave him my best explanation of the economics and the ideology currently accepted about this new medium as well as a few ideas of my own born of several years spent in various phases of the business. At his suggestion I've made them into a more coherent whole and present them here to titillate other producers.

Television, like many another technological development with pronounced military possibilities, did not, after Pearl Harbor, progress with any degree of satisfaction to civilian interests. It is too closely allied with radio from the manufacturing standpoint for it to receive attention that might be more properly devoted to the production of war goods. But it has not ceased operations. It is only dormant.

Stations are still broadcasting programs and countless numbers of people are watering at the mouth impatient to get at this new bonanza. I am constantly assailed by people who want to know how to get "on the ground floor". This didn't, and still does not surprise me. But I was, curiously enough, piqued to discover that the businessman making industrial and teaching films was not getting excited about television. I though *he* should be getting in on the ground floor. And I'll tell you why.

Television's biggest headache is programs. Pretty obvious? Yes, but for reasons that may *not* be so obvious. Even those of us in the business still aren't quite sure what a television program is. We see a little daylight when we consider the sports event or special visual opportunities arising out of newsworthy happenings, within the reach of our facilities. They're a leadpipe cinch compared to the problem of the studio program schedules. The television industry is divided into two camps on the subject of studio programs. On one side you find the exponents of the 18 hour visual schedule, "just like radio", with *some* kind of visual goings-on available anytime within that 18 hour period. On the other side are the devotees of the intermittent visual fare. They project a definite evening schedule, but insist that it is not feasible to offer more than an occasional few hours of programs during the balance of the day.

Both agree that a solution involves among other things an economic factor that cannot be resolved until that time in the future when the number of receivers, transmitters, programs and listeners increases to a point that makes a saner analysis possible.

We are no economic expert so we cannot even hazard a guess about the imminence of that day, but here are a few things we know about because they are day-to-day experiences of any one engaged in television production.

You know, I'm sure, that the number of receivers in operating condition in this eastern program service area is pitifully small. Something like 5,000. And from what I have seen of their owners, I'm convinced that they are the forerunners of the television "hams"—analogous to radio hams. In other words, they are loyal to the stations and program staffs that make it possible for them to show off their receivers to friends. They are not a genuine "lay" audience upon whom we can depend for honest appraisal of programs and presentation methods. Consequently we still are only scratching the surface of public reaction to television. The most nearly typical response comes from the viewer who catches a television program in one of the bars, restaurants or newsreel theatres where such installations have been made.

The point I'm making is this. That the viewer has been conditioned by motion pictures. He is not awed. Invariably his first comment is "looks like the old-time movies." Since he does not own a set whose purchase he must justify to himself and his friends, he reacts normally; and believe me, it's a movie-conditioned reflex.

Now this has economic overtones also. For this reason. Your movie-goer is the potential target for a barrage of salesmanship when television receivers are available, and, although that receiver's cost to him will be in direct proportion to the amount of advertising it funnels into his home, he's not going to be easily placated by entertainment from a *screen* that doesn't measure up to what he's used to in his neighborhood theatre.

Did I say advertising? That's where you come in. Because, in my humble opinion the logical man to tackle the problem of television advertising is the man who has made commercial *screen* presentations of everything from soap, to soup, to lock-nuts. The industrial film producer. To show you why, let's get back to that economic factor again.

This time the television bogie-man takes a different aspect. Preparation time. We all worry about the mounting costs that are incurred with any attempt at a rehearsed program where dramatic elements, scenery, props and intricate cues for all operating personnel are employed. It's plenty expensive, particularly when it's a "one-shot" affair, on one station, in only one market area. But it's even more discouraging when the best that the producer can summon from all the elements at his disposal frequently is of the quality of a parlor charade.

Here I pause to credit the television pioneers, and those who are still helping to maintain the limited service today, with a great deal of patience, ingenuity and faith. I'm aware of the maddeningly inadequate equipment that must be borne with for the present. I know how much any new medium depends on contiguous technological advances to support and encourage program progress. Naturally, these men are doing the best they can with what they have from an equipment standpoint. It isn't pertinent now to challenge the judgment of these producers in their selection of program fare considering all the exigencies noted in the foregoing. At least their stations are on the air.

These conditions obtain and are not to be bettered until victory. But they do prompt not only a consideration of general policy in the matter of advertising on television but of a specific approach that will lend the greatest impetus to the medium as an art form and as a communications medium.

It isn't possible to wholly anticipate the trend in television commercials, but in my opinion there is no doubt of the reaction to skillfully prepared films analogous to the electrical transcription of present day radio. Nor do I hesitate to take the stump for complete programs prepared on film to be amortized, together with the film e.t.'s by distribution to all available video outlets. Economics again. But of equal importance is the fact that with films the advertiser can start where the viewer is. The viewer

(Continued on Page 126)

Management; Unions - - - a Challenge

By BURR McGREGOR

FOR more than a quarter of a century Motion Picture Management has cried within itself deploring the lack of trained technical employees without setting up a condition within its own organization to correct the evil it cried about.

Within the past several weeks the cry was voiced in the columns of an important Union paper. A laboratory superintendent "in a friendly and constructive spirit" cried his complaint for an improvement of the mental-efficiency of laboratory employees.

Rightly, and unjustly, this cry sounds like one of despair. The cry is right, and possibly the despair warranted because the laboratory is the most vital department of any Motion Picture organization. When the film of a feature production reaches the laboratory processing, ninety percent of the investment expended in the production lies hidden in the undeveloped emulsion of the negative and, according to the technical knowledge of the personnel in whose care the negative is entrusted, will the negative be either poorly or correctly processed.

Unjustly, perhaps the cry is sounded because of an apparent inability to cope with the technical-limitations of the operative personnel under his direction or to surround himself with technicians who could keep pace with the changing discoveries of photographic research.

Another cry is the possibility of the displacement of black-and-white photography after the war; that color photography will be the popular demand to the exclusion of black-and-white and, "where are we going to get the technicians of adequate skill for the proper processing of color?" Sounds like crossing the bridge of despair before arriving at the problem.

Black-and-white photography will not be displaced. It will always be in demand as a commercial and entertainment and scientific medium for illustration and technical and uncolorful subjects.

There is no question but what color photography will increase in popularity and demand. The same urging will incite deeper research and new methods of processing as colorful subjects demand illustration to point up their attractiveness, both commercial, scientific, and theatrical.

Scientific research will improve the quality of both black-and-white and color photography through the rigid demands that will be imposed upon both processes. Chemical research will improve texture, speed of emulsions, latitude of exposure, simplification of processing for economy, which in turn will demand of operating technicians a greater exaction of technical-operative skill to bring forth a better image with a deeper range of detail.

The laboratory technician, if he would keep pace with the swift movement of progress, will keep himself mentally equipped to grasp understandingly, the physical properties of new discoveries in his practice of photographic science.

Photography IS a science, and as a science will increase in the range of its application. The science of modern photography has already reached such magnitude that its vastness of technical expression, in its entirety, is beyond the apprehension of any one human mind. It will ever become necessary for the photographic technician to become "single minded," to specialize in that particular phase and department best fitted to his aptitude, where the theory of his technical skill can be developed by practical application for the protection of the product entrusted to him.

Management of the Motion Picture Industry has struggled bravely to keep in step with the scientific application of photography as related to its necessity, as each new discovery has demanded recognition. Photography is the basic foundation of the Industry and a relentless competitive rivalry has compelled the expenditure of vast sums of its working capital to perfect the quality of its product.

The effect of this expenditure has resulted in a variable but steady progress, due mainly to individual research instead of a supervised or established effort, except where such improvement has evolved out of the research departments of the manufactures. Such discoveries of improvement have been awarded proper and profitable recognition, which in turn has spurred the activities of scientists to deeper research, adding refinements to improvements that have been passed on to the benefit of the Industry and, a score of able technicians.

A pessimistic cry of self pity and one that is so often repeated: "The Management of the Motion Picture Industry . . . seldom pays attention or worries about the quality of personnel in whose care the delicate film, carrying its expensive images, is entrusted to for processing," is wide open for discussion.

An impartial observer will discover the fact that Management of the Industry has invested huge sums to promote a progressive laboratory quality of product. One need only to witness the improvement of laboratory installations and the engineering methods of operation in the modern laboratory as compared with the processing methods of only a few years back, no more than a decade, to be made aware of the lavishness of expenditure demanded in order to keep abreast, or at least in pace, with progress and competitive demands.

It is, however, a regrettable fact that Management, except in a few instances, has not inquired specifically into the technical quality of knowledge and skill of individuals assigned to important positions and entrusted with the operation of costly and improved installations.

This apparent lack of interest is mostly on the surface and is not entirely the fault of Management. Responsibility for the technical fitness, coupled with the practical experience, that would enable operative technicians to be effective units, rests equally with the Unions representing the technician as well as with Management.

Without the close coordination of a balanced understanding between the Unions and Management, the technician becomes a lost unit in the dark recesses of the laboratory, almost forgotten. If the technician's performance has been consistently good in productive quality, his effort has been taken more or less for granted.

The individual usually follows his daily routine with self-interest and self-satisfaction in uncomplaining regularity, unless irritated by his superior in position with an outburst of temperament in an effort to cover his own confusion, and by so doing, throwing out of balance the smooth routine of his organization, when a little studied understanding of the technician's problem would raise a plodding morale. Such an individual has usually been confined to one spot of performance so long that he works automatically and, when a change of routine, or personnel, does take place his automatic movements are thrown out of balance and accompanied by waste and friction until a new groove can be fitted back for a new automatic operation.

And so the laboratory executive loads himself with worry, and justly so, for he can only be as good as the men under his direction, and their faith in him. His management can be no better than the technical knowledge of the technicians of his department and their ability to; "Deliver."

The Producer (Management), is interested only in the quality of his product as it appears upon the screen. Personalities, except where they are of value to his product are of secondary interest. His main worry is to keep his production with a limited schedule of time and a budget of expense. Seldom, unless he becomes excited by the discovery of unexceptional effect or method of economic procedure, does he inquire after a technician whose effort has attracted his attention.

Exceptional recognition attracted to the individual technician can only come through the result of a special quality his effort has contributed to the finished product; The speed with which he has been able to deliver to his part of the job to the next man in line; the initiative that has prompted him to

(Continued on Page 122)

A Training Film That Trains

Reviewed By BRUCE A. FINDLAY

HEAD SUPERVISOR, AUDIO-VISUAL EDUCATION SECTION, LOS ANGELES CITY SCHOOLS

FOR some time educators have been demanding the production of motion pictures that do more than talk—pictures that actually teach. A teaching picture demands "participation" on the part of the observer; an illustrated lecture is not the best type of teaching, for it is not what the screen does so much as what the observer does that constitutes the ideal lesson.

Recently we had the privilege of screening a commercial training film that includes all of these teaching techniques. "Replacing Oil Cooler Tubes" is the title of this 800 foot, black and white, direct 16mm. sound motion picture. It was inexpensively produced by the AiResearch Manufacturing Company of Los Angeles. Credit goes to their own photographic department, with the technicalities capably handled by Edward Pyle. Telefilm, Inc., of Hollywood is responsible for the 16mm. sound recording, the narration being done by Don MacNamara. The opening and the ending titles were cleverly associated with the subject matter (oil cooler radiators) of the film, by use of the honeycomb design of the face of an oil cooler, as a low-key background for the title letters.

This unusual job-instruction motion picture shows clearly and in complete detail, how to make repairs on the oil coolers made by AiResearch for use on the modern airplane. The film has three basic sequences, the first of which shows the correct step-by-step procedure of doing the job. Interest is sustained by frequent changes of camera position, intelligent cutting in of close-ups and extreme close-ups. A trainee sees how the job should be done, probably more clearly than if he were looking over the shoulder of the demonstrator.

Each tool used is shown in full screen close-up and is clearly described immediately prior to its use. The general photographic treatment is particularly effective in the high-lighting of the subject which causes it to stand out from a dark background thereby attracting attention.

The second sequence is a "review" of five of the most important steps in the job procedure. The narrator says, "Now, let's review the five most important steps," as a brief and legible title (white letters on a black background) lists the five review points. Each point is cleverly "wiped down" on the title, as the narrator reads the descriptive line. Following this title, the first review step is clearly illustrated by brief scenes. Over the first of these is a super-imposed title, describing the step which fades in across the bottom of the frame. The narrator reads this title line as it fades in, and continues his story after the title fades out. The other four review steps are similarly presented. This simple review technique, with the narration emphasized visually by the super-imposed titles, is an excellent treatment.

One of the most important ingredients in a master teaching lesson is review. Speed is one of the great pitfalls into which producers of training films readily fall. Because the subject matter can be reeled off is not evidence that the observer can reel it in. Review well balanced and intelligently handled is a factor too often overlooked. Mr. Pyle has treated his review in a way deserving of real credit.

The third, or "participation," sequence of this film is well handled also. To insure observer participation, the narrator says, "Now, let's see if we have learned how to replace oil cooler tubes." Then, the screen goes completely dark, except for the numeral "1" which appears in the lower left corner of the frame as the narrator asks, "What was the first important step?" The narrator remains silent for about five seconds to allow the observer time to realize he has been asked a question. In practice, this technique makes him think about the facts presented in the film. After this pause on the screen, the narrator says, "That's right!" and reads the title line describing the first point as the title letter "wipe" across the bottom of the still dark frame. After the narrator reads the title fades out as the scene continues. This same treatment follows for each of the other four important steps. We found ourselves trying to remember the points as the narrator asked the questions.

When sound teaching techniques are incorporated in the film itself, the observer is guaranteed a good lesson. When the instructor is inexperienced in teaching, he may or may not present the subject in a manner to bring about maximum learning.

Management; Unions

(Continued from Page 121)

use his technical skill to meet an emergency; his alertness that has detected mistakes before they could happen.

It is a glowing fact that few laboratory technicians have attained a deeper knowledge of the science of photography than the requirements necessary for the operation of their specialized, stationary assignments. Many Laboratory technicians have had to perform their assignments according to routine rule and printed instruction without knowing WHY their operation is effective. Mainly, their efforts, and the methods they follow, are successful because they are the result of experience gained through a long course of trial and error, a sort of "feeling the way" procedure, instead of the dictation of an analytical reasoning-mind of technical skill and knowledge attained through and academic education of scientific research and aptitude for analysis.

Why IS such a condition? For a decade the Management, and the Unions, have wasted time, effort, money, and energy, vigorously fighting each other until the cost of their bickerings in money alone represents a staggering sum which, had it been expended on research and technical instruction for the benefit of both Management and Unions, would have advanced the industry and the individual and all concerned far beyond the present standard of economy and quality of product.

No other manufacturing business has been conducted with such indifferent regard for the technical knowledge of its personnel. There is an exception however. The Color Laboratories, where technical skill of processing is absolutely essential.

It is amazing, that in spite of all the blind experimenting that has been carried on in black-and-white photography; searching through formulated theories, that a fairly consistent quality of good photography has been produced, but—at the expense of enormous waste of material, time, and money.

The condition that compels costly and wasteful experimentation is not a single fault. It is not only the struggling fault of the unenlightened individual technician, but of the Management from whence issues the weekly pay check and, the Union that carries the technician's membership.

And, there is the other well known evil. The evil of personal favoritism. The forcing of an unqualified individual into technical employment through a political status and other abused influences; always at the expense of economic-quality product. This practice has been one of the greatest evils of employment in the Motion Picture Industry.

It is the responsibility of Management and the Unions together to educate a

(Continued on Page 128)

Aces of the Camera

(Continued from Page 116)

For the premier of this picture, anticipating "Fantasia" by some fifteen years, Karl had sections of the orchestra all over the theatre, from the regular orchestra pit to the gallery.

Every picture he made was a masterpiece of camera work, and it was evident that the man knew what he was doing. His first triumphs had quite obviously not been the result of coincidental good fortune. Every new release reestablished him as a master, and Hollywood decided it needed him. Paramount offered him what was probably the most flattering offer ever made to any cameraman: a five year contract, starting at one thousand dollars a week, with a raise of two-hundred and fifty dollars a week every year, without options. It represented a lot of money, and it represented recognition. It was a tribute to the contribution he had made to the art and drama of the cinema.

The contract was signed, but it never went into effect. Somehow, when Karl and his wife started thinking about their projected trip to Hollywood, with the dislocation and reorientation of their lives that it would intail, they wondered why they had agreed to it in the first place. It certainly offered a lot more money than Karl could earn in Germany, but there were other things to be considered. They knew no one in Hollywood, and they would have to leave all their friends, their flat in Berlin and their farm in the country. They felt supremely happy and they had all they needed or wanted. The Berlin they knew was untouched by the political intrigues that devastated that city in later years, and was for them, rather, the home of the writers and painters and scientists whom they numbered among their friends.

So Karl went back to see Paramount's European representative, a Mr. Rachman. It turned out that that gentleman was an understanding man. When he learned the reasons Karl had for changing his mind he tore up the contract.

He was eventually brought to Hollywood in 1930 by Technicolor, who needed his services in an advisory capacity on a technicolor matter. Karl was in London at the time, a director of, and representing a Movie-Colour Ltd., a company that had the 35 mm. rights to the Keller-Dorian color process the 16mm. rights of which belonged to Eastman and was marketed under the name of Kodacolor. The idea that Dr. Kalmus had, when in London he persuaded Karl to come to Hollywood, was that he could in some way combine the three-color process and the advantages possessed by the Keller-Dorian method to that with which Technicolor was already engaged. But things didn't work out that way, and Karl's contract was sold to Universal.

Technicolor wasn't the only company having a little trouble in those days. Universal had their troubles too, and though they were of a different nature the headaches were just as bad. They were making "All Quiet on the Western Front." In fact they had made all but the finish, and were scheduled to open the following week at a much advertised and highly publicised premier.

Time was short, but still they couldn't agree on an appropriate ending. Somehow, the effect they wanted to achieve eluded them. Lewis Milestone, who was directing, became frantic and was heard to remark that if he only had that chap Freund here, Freund could give them a finish.

Milestone was delighted when he learned that Karl was not in Europe as he had supposed, but right in Hollywood. He sent for him immediately. It was a Sunday, and the picture was due to open later that same week. Something had to be done, and quickly. Karl didn't disappoint. He came up with the idea of the butterfly that the young soldier tried, on that quiet Spring day on the Western Front, to catch, that resulted in his death from a sniper's bullet. Simple, dramatic and symbolic, with the Freundian touch. It was the perfect ending for an outstanding picture. Universal bought Karl's contract and made him cameraman and director.

When the Universal contract expired after a matter of four or five years, he went over to M.G.M. where he has been ever since. His first assignment at that studio was in directional capacity on Peter Lore's (?) first American picture. A horror story, it was a little out of place and incongruous on a lot whose stock-in-trade was productions tailored to fit glamourous leading ladies.

Then came "Good Earth." After that Karl decided it was much better to be a cameraman on a big budget picture than a director on a quickie.

The thing that has marked the career of this man who has been making motion pictures since 1906—who dabbled in sound pictures as early as 1908, who has enjoyed a high degree of success and recognition in every field of endeavor—has been his constant fight for recognition for the cameraman. Not so much on the credit titles as in the studio. As far as the credit title is concerned, he doesn't think anyone un-connected with the industry is particularly impressed one way or another with any of the names appearing in the credits. To support his contention he points to the question asked on a popular radio quiz-show during the height of "Mrs. Miniver's" successful run. The otherwise well-informed contestant did not know who directed that Academy Award winning picture. And with several similar instances to round out his theory he concludes that the great public is equally unaware of both cameraman and director.

His fight is to have the cameraman recognized as an artist who brings an important contribution to the production. He contends that a cameraman contributes as much as a director does to a picture, and that he should have the same opportunity to prepare himself for his job of shooting the picture as the director does for directing it. He believes that a cameraman who has had a chance to familiarize himself with the script, who has been consulted with regard to the sets against which the action is to be shot can turn in a smoother piece of work, more quickly and more intelligently done, that will result in a better picture.

The director lives for months with the story he is going to make into a film. He knows every situation, every mood. It has become a part of him. He has studied the characters and selected his cast. In all probability he has fought and argued with people to get what he wants. When he finally starts to put the story on film he has all the particulars in his mind.

The cameraman, on the other hand, might get 24 hours notice before being assigned to the story. He frequently has to do this all important work without the benefit of any prior knowledge of the script. He arrives to find the sets all built and ready, and has to use them whether he likes them or not.

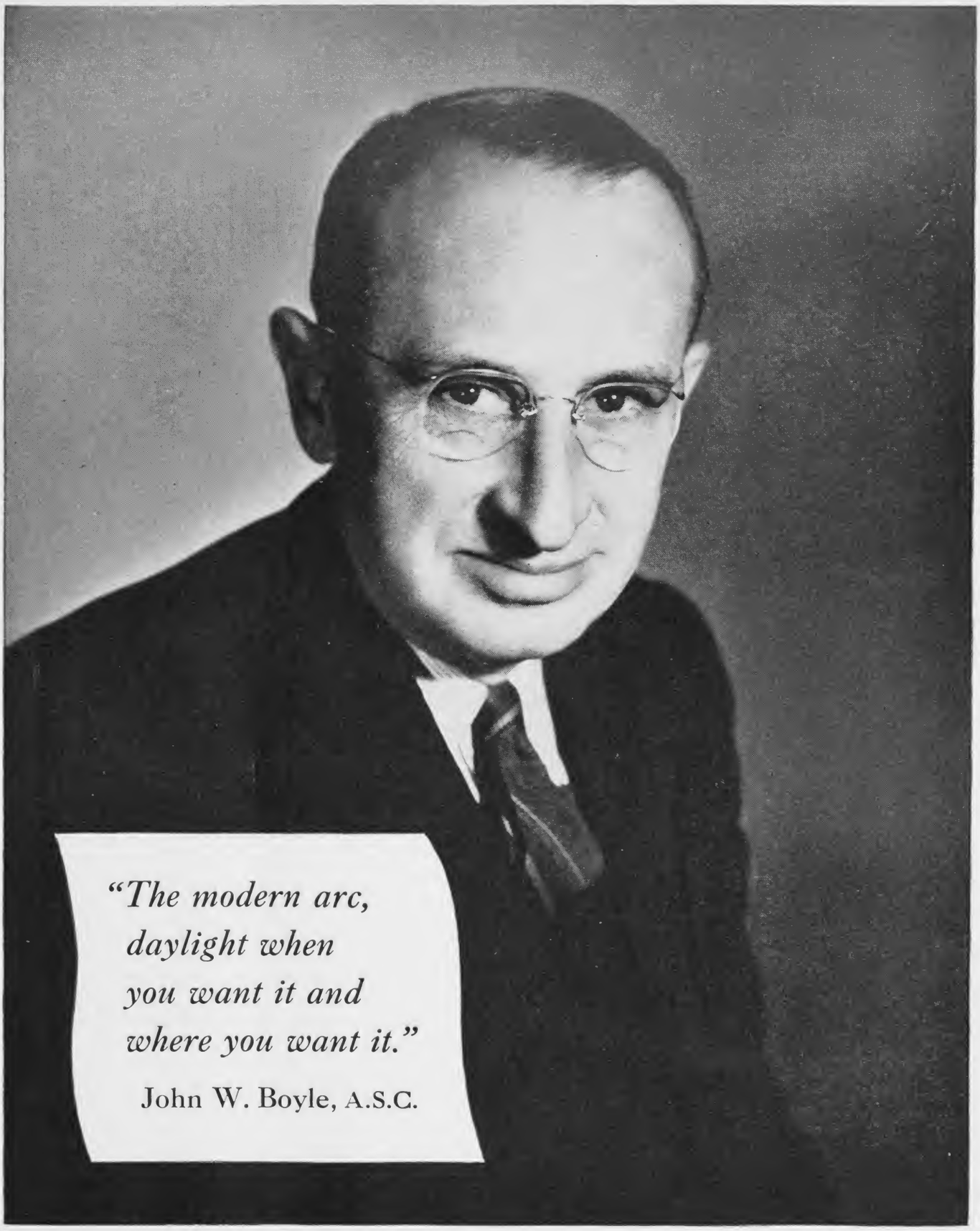
Furthermore, the cameraman has to make, overnight, a psychological change. He may have just finished shooting an entirely different picture; making the transition perhaps from a light musical to a low-key melodrama. He may have been working with a director who wanted his scenes made in an entirely different manner from that demanded by the director on the new picture. He is faced with the necessity of adjusting himself to a new star and an entirely different set of personalities. Under any circumstances, it is too short a period in which to make the adjustments necessary to get the most out of a story.

Some cameramen seem to find it expedient to determine who the strong character is on the picture. Is it the star, the director, or the producer who will dominate the production. Having made up their minds they will then direct their efforts to win the support of that person. Karl doesn't do that. He took his cue from Irving Thalberg, who told him, "Karl, please yourself." So he does, and pleases everybody.

New Slides from S.V.E.

A SET of thirty-five 2"x 2" Kodachrome slides from the collection of Charles Perry Weimer's "The Cavalcade of South America" has been added to the library of the Society for Visual Education, Inc., 100 East Ohio Street, Chicago 11, Illinois.

Mr. Weimer made a 100,000 mile, eighteen month photographic survey of the continent of South America. Slides representative of Brazil, Chile, Venezuela, Colombia, Ecuador, Argentina and Peru are included in the set.



BUY UNITED STATES WAR BONDS

NATIONAL CARBON COMPANY, INC.

Unit of Union Carbide and Carbon Corporation

CARBON PRODUCTS DIVISION, Cleveland 1, Ohio UCC New York, Pittsburgh, Chicago, San Francisco

Camera Planes Win Wars

(Continued from Page 115)

Speedily developed and printed after return to headquarters, the photographs are subjected to the critical study of highly trained personnel. Read with the aid of powerful magnifying glasses, such photographs furnish clues to every sort of enemy activity. A good man can look at a photo of an enemy air field and tell you the type of planes on the ground; he can estimate the output of a factory from certain details in a photograph; or he can spot flak batteries despite the cleverest camouflage. Recent experiments have developed a color film with which pictures may be taken and developed speedily under almost any conditions, revealing enemy secrets which only color film can produce.

The War Department reveals that cameras shoot through special glass windows set flush with the fuselage and located at angles which depend on the cameras used. On some F-5's, tow cameras take overlapping pictures, shooting straightdown from a single window. But the most common camera set-up is the trimetrogon method. This consists of three cameras which shoot three different surface views. One of parallel with the ground, flanked by two others whose optical axis are depressed 30 degrees below the horizontal. Result is a series of photographs which take in a path from horizon to horizon over any territory the F-5 flies.

For most aerial mapping, three basic types of cameras are used. In the trimetrogon method K-17's are usual. This camera can be equipped for focal lengths of six, twelve or twenty-four inches, and uses a between-the-lenses shutter of the compur type. K-22 cameras may also be used with a focal length of twenty-four inches and forty inches with a curtain type shutter.

For reconnaissance work the longer focal lengths are preferable, since longer lenses are telescopic, show more detail, less area. For charting and mapping, where less detail is required, shorter lenses, which have greater coverage, are used.

With the invasion of the European continent imminent, the Lightning F-5 daily is playing an increasingly important role in the war effort. Members of the Focus Cats are the pathfinders, the invasion-charters, and the map-makers of the Allied High Command. Recently they were asked on one assignment to photograph 200 enemy air bases in Europe and, flying F-5's they brought back pictures of 167 bases in six days.

Flying high-level, they race across the continent on their hazardous missions and the unarmed Lightnings carry them through flak and the fire of enemy pursuit planes and bring them home with the goods.

Here is a view of the new Lightning F-5 camera ship escorted by a P-38.

Don't Forget Television

(Continued from Page 120)

has accepted screen entertainment—he has accepted screen advertising. Although he has not heretofore accepted screen advertising along with his entertainment feature at the same showing, he *is* conditioned to advertising in his home entertainment via radio. The adjustment will not be a difficult one provided the entertainment is at least of the caliber of the average good evening radio show. Currently, the average studio television entertainment falls well below standard for either radio or motion pictures.

I am even more apprehensive about the programs to be aired when television service is increased. Whether the viewer will have an 18 hour television day, or only intermittent visual, he's going to be subject to a pretty meagerly contrived entertainment schedule.

Whatever the final mixture, and it will be just that, there is a way to defray part of the cost of programming for television through the sale of air time to advertisers who furnish their own "teletranscribed" programs or announcements made on the film. For, a better show can be devised, more and better talent can be employed, and a more lavish mounting is possible if the delineation of the sponsor's product or idea can be extended, through film, to all the market areas which surround the television transmitters of the nation. Transmitters are as yet unlinked by any network arrangements. This is right up the industrial film producer's alley.

I cannot promise that he is automatically going to fall heir to this particular undertaking. But when consideration is made of sources for personnel, ideas and equipment to handle jobs of this nature, the industrial film producer cannot be overlooked. Nor is it to be merely a transplanted function. You will have to learn to do some things in a new way.

You will also have to learn to do some routine jobs in a better way. Television standards are going to be pretty exacting. You can anticipate, after the war better definition, larger screens, color, really high fidelity sound, and more efficient film scanners. You may also anticipate being required to furnish quality prints—written, directed, lighted, photographed, cut and printed in a manner more compatible with television requirements. They will probably be shorter, subtler in treatment, lighted rather more flatly than is common in studios today, employ more mobile camera work and finally, enjoy more laboratory attention to secure prints that satisfy the requirements of electronic transmission. What else is in store for the film producer in television is anybody's guess, but at least he has the equipment, the technical skills, the adaptability and the experience. Plus these he knows how to use screen salesmanship, and he has millions of friends who will be glad to see him again in this new medium—glad to welcome him to their homes and to admit a guest too,—the manufacturer of that soap, or soup, or those lock-nuts.

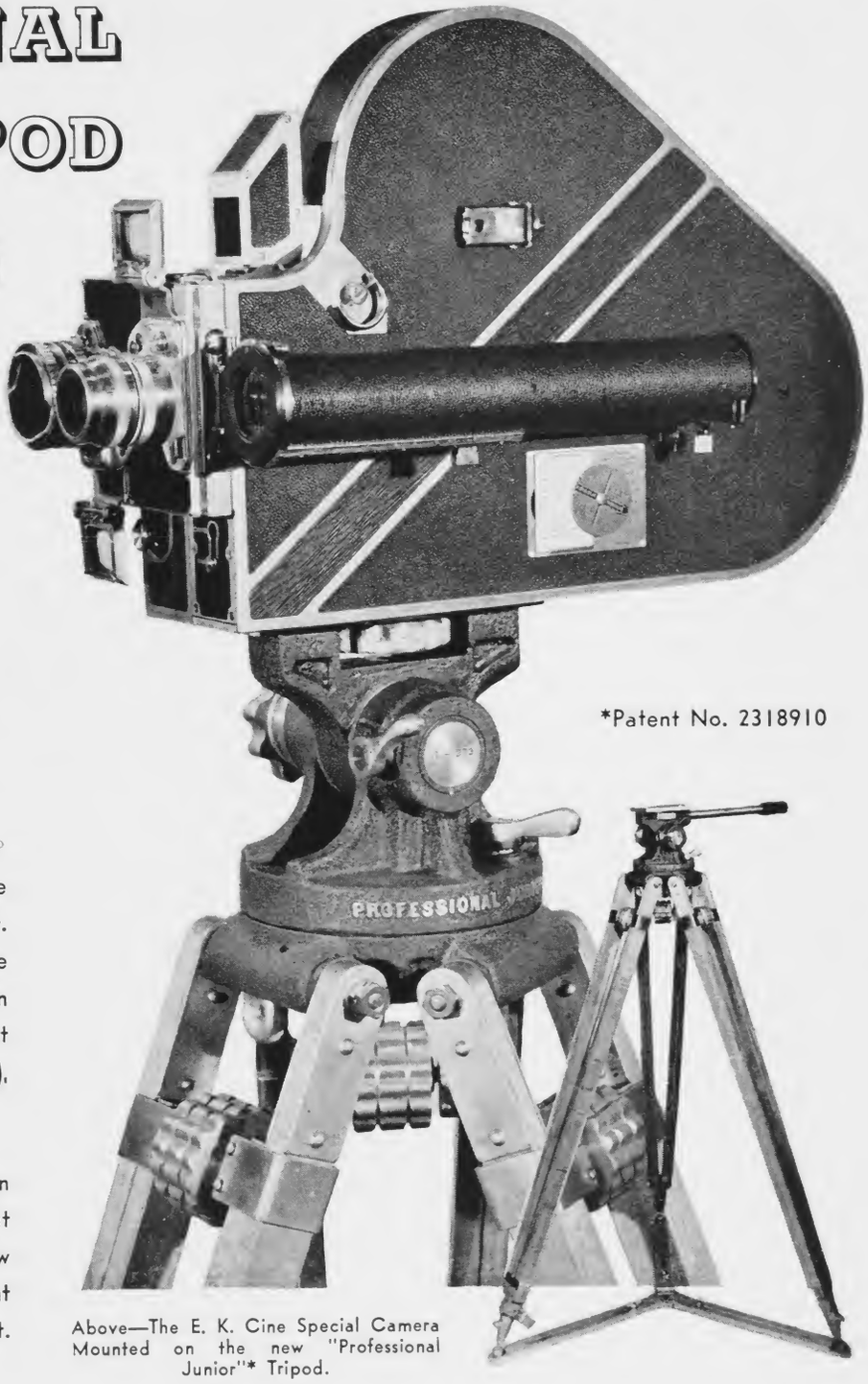
Photo Industry Plans for Surplus Equipment Disposal

IN a move calculated to insure orderly postwar disposal of government-owned photographic equipment, a "committee on government surplus war equipment" has been established to represent photographic manufacturers and dealers in negotiations with government agencies handling disposal problems.

This committee, functioning as a unit of the Photographic Manufacturers and Distributors Association, will also represent the National Photographic Dealers Association, The National Association of Visual Education Dealers, and will work in cooperation with other interested groups. The new committee is headed by J. Harold Booth, Vice President of Bell & Howell Company.

"PROFESSIONAL JUNIOR"* TRIPOD

WITH REMOVABLE HEAD



*Patent No. 2318910

The friction type head gives super-smooth 360° pan and 80° tilt action. It is removable, can be easily mounted on our "Hi-Hat" low-base adaptor. The large pin and trunnion assures long, dependable service. A "T" level is attached. The top-plate can be set for 16mm. E. K. Cine Special, with or without motor; 35mm. DeVry and B & H Eyemo (with motor), and with or without alignment gauge.

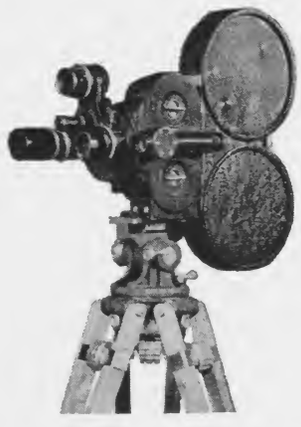
The tripod base is sturdy. "Spread-leg" design affords utmost rigidity and quick, positive height adjustments. Complete tripod weighs 14 lbs. Low height, at normal leg spread, 42". Extended height 72". All workmanship and materials are the finest. Also available are heavy fibre carrying cases.

Above—The E. K. Cine Special Camera Mounted on the new "Professional Junior"* Tripod.

Tripod Head Unconditionally Guaranteed 5 Years. Write for Descriptive Literature!

"Professional Junior"* Tripods, Developing Kits, "Hi-Hats" and Shiftover Alignment Gauges made by Camera Equipment Co. are used by the U. S. Navy, Army Air Bases, Signal Corps, Office of Strategic Services and Other Government Agencies—also by many leading newsreel companies and 16mm and 35mm motion picture producers.

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY



Above—Collapsible and adjustable telescoping metal triangle. Extends from 16½" to 26½". Has wing locking nuts for adjusting leg spread and stud holes for inserting points of tripod feet. Triangles prevent damage, insure cameramen that their equipment remains in correct position and will not slip on or mar any type of surface.

Left—35mm Eyemo with motor and 400 ft. magazines mounted on "Professional Jr."

Management; Unions

(Continued from Page 122)

desired individual into technical fitness that will make him an asset to the employing company by placing at his option an academic course through which he can attain the required standard of technical knowledge before he is entrusted with an important assignment.

Such a course of technical training should be conducted within the confines of the employing company where every practical setup is maintained with which to demonstrate the theory of its procedure. The training should be supervised by competent technicians qualified to demonstrate, and impart an adequate knowledge of operative theory as related to practical operation.

If Management, and the Unions, would cease their combative struggles and get down to a constructive basis together of sharing in the training of personnel, a higher standard of quality-product would be the result.

No man can improve his earning capacity, or his worth to Management and Union affiliation, until he can improve himself and his constructive effort, and no man can improve himself or his effort if he is hedged about by restraint and worries caused by Union and Management bickerings related to the welfare of all concerned. There is a right and a wrong way for such matters to be adjusted. The right way is the only economic way in the end and eventually asserts itself.

It is the duty of each producing studio of major standing throughout the industry to maintain a well setup research laboratory, or department, ably supervised and ready to answer inquiry at all times. Funds for the maintenance of such a department could be supplied by Management in conjunction with the Unions, equally—in cooperation.

"Think it over."

Camera of Tomorrow

(Continued from Page 118)

It is often a problem in most present projectors to remove the screw base when the lamp explodes. Have also a rheostat for the control of the brilliance.

3—Constant speed.

Constant motor speed is an absolute necessity for sound. Have it correct at all times for set speeds 16-24-32.

4—Sound.

Have all sprockets for sound films, and have an easily added sound head and mechanisk, sound control, etc. Have a point for easily coupling with a turn table, and flexible shaft coupling for 33, 1/3 and 75 rpm. speeds. Possibility of hooking the home radio and extra loud speakers, micro, etc., if desired.

5—Film gate, threading, etc.

To have a good gate arrangement permitting the flawless projection of buckled films (particularly 8mm.), non-tearing teeth, no scratch pressure gate, ease of threading, accessibility for cleaning of the window, and a frame centering.

6—Lubrication.

Lubrication is often a problem. Some points are hidden with pleasure it seems. The future projector should be able to dispense with oil, using special self-lubricating gears and axes, perhaps graphite. When used up, the bearing (self lubricating), should be easily changed without the necessity of turning the projector to the manufacturer.

7—Rewind and extension arms.

A high speed rewind, without belts or with enclosed ones for the first arm (400′ in 16), with possible extensions up to 800 for 8 and 1600 for 16.

8—Hook up with house circuit, pilot light.

An easy and simple way to plug with the room circuit and a double-way switch, to switch on and off. The pilot light also should be easily controlled manually and possibly with a semi-automatic coupling, to turn on the light when the film or a splice breaks, or loss of loop, if ever.

9—Various.

Let us add a sort of automatic feed or something to help the threading, with no possible loss of loop. Real cooling fan. Effective smooth permanent titling of the projector up to 60 degrees if necessary (with automobile head lamps the angle of throw would not matter), and why not up to 90 degrees for projection on the ceiling for our boys in hospitals? Stop to single frame and effective protection of the film for any length of time. Perhaps an arrangement to stop the film at titles, as in the Pathé, reducing considerably the length of non-animated titles, this for silent films. This arrangement to be automatic or semi-automatic, i.e. which could be dispensed with (locked) when using sound films. AC-DC motor for 110/220 volts. Strong simple convertor for use of sound equipment with DC current. And with the projector also, standard items at least for the lamp bases. Finally perhaps a projector which could pass, with a simple alteration, 8 or 16mm. film with no loss of brilliance.

More About Reflectors

(Continued from Page 117)

I had observed that the girl had rather large eyes, and in that sun light the pupils had been reduced to mere pin points. This would spoil any picture, for it is the eyes that we photograph. They tell what a person is thinking of, whether it be love, happiness, hate or fear. One of the secrets of great photography is properly photographing the eyes. Regardless of what lighting effect a cameraman may be trying for, he should study his subject and so light it that the eyes will be normal at all times, and able to move dramatically and unhampered.

Now that the problem of direct sunlight has been taken care of, there may be something else which throws a glare into her eyes. Perhaps a roof top, a white umbrella or even sky glare sufficient to reduce the pupils. This can be prevented by standing something dark directly in front of her and in the line of her vision (D). When this is done it is surprising how large and soft the eyes become, and all the little squint lines disappear.

Good pictures are not hard to make, but they take a little time and study. It is better to make one good picture than a lot of poor ones.

In the March issue we talked of a three-quarter light where the sun is behind the camera. This article deals with the source of light coming from the side of the camera. Next month we will discuss the problem of the sun behind the subject and shining toward the camera.

Agricultural Motion Pictures And The War

By CHESTER A. LINDSTROM

ASSOCIATE CHIEF, MOTION PICTURE SERVICE
U. S. DEPARTMENT OF AGRICULTURE

FOR the second time since the birth of the motion picture industry, the screen has been called upon to fight side by side with other weapons in defense of our sacred liberties. And what a powerful weapon it is! It has been said that the pen is mightier than the sword. This new weapon is mightier than either. In the hands of a treacherous and unscrupulous enemy motion pictures spread fear and terror among the peoples of weak and defenseless countries, and made easier the conquests that followed. In our hands they are doing valiant service in ferreting out the activities and camouflage of our enemies, training our young army in the arts of war, cementing friendly relations with our neighbors and allies, guiding our war production effort, and maintaining morale on both the home and fighting fronts.

At no time have motion pictures been put to such varied uses as they are at present. Perhaps I may be excused for platitudinizing when I say that "motion pictures have *just* come into their own." We, who have been connected with their production and use for the past twenty-five years or more, have heard that statement made at probably every meeting where motion pictures have been a subject of discussion. Yet that "coming into their own" has always seemeed to remain "just around the corner." By numerous studies and tests their value in education, instruction, and training was proved, yet a comparatively small portion of the school budgets went into motion pictures. It was left to industry to show by action instead of words that motion pictures had really been "recognized" as an educational and training medium. Before the war thousands of films were made by industry for sales promotion, public relations, and training purposes, and it is no credit to bigwig guardians of school budgets that for years these were practically the only motion pictures available to that earnest group of visually minded educators who saw in this medium the opening of a new field of unlimited possibilities in education and training.

It took a world upheaval to force acceptance of the proved facts that where appropriate motion pictures were used in teaching, lessons were learned faster, retained longer and were more thoroughly assimilated than by any other known method. Here we were, an unprepared nation faced with a fight for life, untrained, except for the small body of professional soldiers, in the skills by which wars are won. Ten million men unfamiliar with even the simplest implements of war, to be trained in the operation of rifles, machine guns, cannon, tanks; in communication, transportation and logistics, and in the thousands of other skills by which modern warfare is conducted. Additional millions had to be trained in the skills required for producing the complicated weapons of modern warfare. There was no time for the slow procedure of old-fashioned training methods. Time was on the side of the enemy. Each day saved meant the saving of perhaps thousands of lives, yet inadequate preparation might mean the loss of the war.

Necessity, therefore, forced the adoption of a medium which would train quickly and thoroughly not only a few, but thousands. This is where the motion picture "came into its own." Like an all-seeing eye it delved into the deepest mysteries of the interior workings of engines and guns and tanks, and brought forth, by animation and stop motion, the secrets of construction and operation which had to be learned to operate them efficiently. Films were made to serve in every possible field of training. Instead of demonstrations that could be seen inaedquately by just a few, training pictures were shown repeatedly to hundreds at a time, and training progressed more rapidly than even the most sanguine had hoped would be possible.

In the agricultural field, the problem was that of converting our peacetime production to the production of the foods, fibers, and oils needeed for total war, guiding the food habits of a whole to utilize available nutritive foods, and making an admittedly wasteful public conservation conscious. This, too, was a training job. Thirty-five million farm people can not be made to produce so many bushels of corn, peanuts, or soybeans by proclamation or regulation. They have to be shown the way and wherefore of conversion from crops that have proved profitable to some with which, possibly, they are unfamiliar, and they have to be shown how to grow the new crops. They want and need all the information they can get on the problems involved, in order to determine intelligently how to get the most of needed crops from their land with available machinery and manhours. At no time has efficiency in farming been more necessary than at present. Many farmers, like the rest of us during years of peace have slipped into ways of doing things that are not always the most efficient. They could get by with it then, but now the situation is different. There is less labor. less machinery, less fertilizer, less of everything. Efficient use of time means increased manpower; efficient methods of cultivating, fertilizing, feeding, harvesting, care and use of equipment meant not only the ability to increase production with less labor at a time when the latter is not readily obtainable, but to have all-important manpower while doing so.

The motion picture program of the Department of Agriculture, since the start of the war, has been geared largely to assist the farmer in solving such problems, and to give him information and guidance in converting and increasing his production to the needs of total war. Certain movies have been designed to build and maintain morale among the hard-pressed farm people, and, in the interest of harmony and cooperation, to give others an appreciation of what the farmers are doing to help win the war. Certain films have been of the how-to-do-it type; others have presented problems for consideration. The Department's war pictures for farmers may be classified into 3 main types:

(*1*) Guidance and incentive pictures, designed to encourage the production of adequate supplies of food, fiber, and oils to meet our war demands, and to stress the need for conservation of our resources.

(*2*) How-to-do-it pictures, designed to explain certain steps, processes or methods in agriculture, home economics, and forestry.

(*3*) Morale-building films.

The following are fair illustrations of the first or guidance and incentive type:

Wartime Farming in the Cornbelt, released in 1942, shows the steps taken to reclaim the soils depleted during and following World War I, and how in consequence the Cornbelt is now able to provide enormous quantities of food and fiber through the use of good soil conservation practices without unnecessary exploitation of the land. The conclusion plainly to be drawn is that good soil conservation practices increased yields, and that no sensible farmer would follow practices which deplete the soil and lead to ruin.

Democracy in Action, released shortly after Pearl Harbor, was rushed to completion before the spring planting season in order to impress farmers with the need for increasing production. It outlined the crop production goals to be reached during that first year.

(Continued on Page 134)

This article reprinted from the S.M.P.E. Journal.

AMONG THE MOVIE CLUBS

Utah Cine Arts Club

Greater part of the March 15th meeting of the Utah Cine Arts Club was taken up by the Film Clinic. Members of the club are proud of their clinic, for they say, "It is a clinic, and not a post-mortem examination. In a good clinic the patient is not ridiculed because he has Bright's Disease. He is not criticized for an enlarged heart. Likewise in our film clinic we hope to take an ailing reel of film, give it a transfusion of titles if need be. We may want to remove the entire section. The sole purpose is to make a better and happier picture."

La Casa Movie Club

Nine films were on the program at the March meeting of the La Casa Movie Club of Alhambra, California. Four were 8mm., two were 16mm. and three were 35mm. They included "Yellowstone National Park," "Mt. Ranier," "Ice Follies and a Few Missions," "Sunny Kansas," "Life in the Ozarks," "Rare Birds We Seldom See," "High Sierras," "Death Valley" and "The Desert."

Washington S.A.C.

Harvey Rockwell, former engineer with the Weston Electrical Instrument Company, gave a practical demonstration of how to use exposure meters at the March meeting of the Washington Society of Amateur Cinematographers. Members brought their cameras and light meters and learned a lot about how to use them.

Southern Cinema Club

Southern Cinema Club is conducting a contest for the women members. Prizes are for best one-reel black-and-white films photographed by the women who enter them. Judges will be male members of the club. Closing date is April 25th.

The Southern Cinema Club has also stirred up keen competition by announcing the awarding of a traveling "Oscar." This will go to the member showing the best film each month. It is not retained permanently, but is passed on each month.

M.M.P.C.

Four films featured the program at the March meeting of the Metropolitan Motion Picture Club at the Hotel Victoria, New York City. Films shown were "The Last Review" by George A. Ward; "Little Sherlock" by Charles J. Carbonaro; "Royal Visit" by T. J. Courtney; and "Flowers of the Southland" by George Mesaros, famed for his garden photography.

Vallejo Club Sells Bonds

Hats are off in Vallejo, California, to the members of the Vallejo Movie Club. The club staged an amateur and professional movie show in the interest of the 4th War Loan Drive, and sold $1352.80 worth of bonds and stamps. That's turning a hobby into something useful for the war.

Syracuse Movie Makers Get Together For Dinner.

Dem Glorious Bums

The Brooklyn Amateur Cine Club will hold its 5th Gala Nite on the evening of April 14th. The affair will be held at the St. Felix Playhouse in Brooklyn, N. Y. Six films will be screened. They are: "Land's End" by Frank E. Gunnell; "A Letter" by Henry E. Hird; "A Day at the 200" by Walter Bergmann; "Summer Rhapsody" by Charles H. Benjamin; "Jewels of the Sea" by William W. Vincent, Jr.; and "Good Housekeeping" by Martin Sternberg. Oh, yes, admission price is 55 cents, according to Charles H. Benjamin, chairman of the program committee.

Philadelphia Club Elects

Following are the newly elected officers of the Philadelphia Cinema Club who will assume their duties this month: Arthur J. Hurth, President; James R. Maucher, Vice-President; Wilmer D. Coles, Secretary; William Brink, Treasurer.

At the club's last meeting the following films were shown: "A Day at the Zoo," "Down East," "Hard Alee," "Shadow's Bones" and "Baptism of Fire."

Utah Amateur Movie Club

Highlighting the March meeting of the Utah Amateur Movie Club was the discussion, led by Dr. S. Kenneth Robbins, of a script being prepared for the filming of the dental assistants of the city. It is a film that will depict the duties and activities of this group.

Also on the program was the screening of three films: "The Stork Arrives" by Wendell Taylor; a tour of the Nation's Capital and a nature study by Mrs. D. H. Cameron.

San Francisco Club

One of the most interesting films ever shown to its members was one depicting the collapse of the Tacoma Bridge. It is a film that has not been shown to the general public. It not only shows the collapse of the bridge, but contains shots made in a wind tunnel at the University of Washington in which was constructed a 100-foot model of the bridge.

Los Angeles 8 mm.

HIGHLIGHTING the March meeting of the Los Angeles 8 mm Club was a practical demonstration of the use of panchromatic make-up for color photography by Abe Shore of the Max Factor Company.

Four films were then screened. They were "Merry Christmas" by Fred Evans, "Gill's Pride and Joy" by Merwyn Gill, "Autumn in Ohio" by J. R. Boaz, and "Examiner Open Swim Meet" by Merwyn Gill.

TESTING NOW!

For Peacetime 16 mm. Projectors

For over two years, thousands of AMPRO 16 mm. sound projectors have undergone gruelling tests—from arctic wastes to South Pacific jungles, on aircraft carriers, destroyers, submarines—under blazing sun and in subzero temperatures. Out of this cruel laboratory of war have come sturdy, practical 16 mm. projectors exceeding even prewar AMPRO efficiency. Today these "war-tested" AMPRO machines are being made now exclusively for the United Nations armed forces. *When peace comes—they will be available for bringing new worlds of entertainment and education to the home.* Write today for Ampro catalog of 8 mm. silent and 16 mm. silent and sound projectors.

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Buy War Bonds

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Agricultural Motion Pictures and the War

(Continued from Page 130)

Home on the Range was produced when the meat shortage was foreseen to show what the stockmen of the West were doing about it. It points the way to increased production through practices advocated in the government's range program, the realities of properly located water holes, windmills, watering tanks, deferred grazing, and contour farming.

Farm Battle Lines shows why it is essential for the South to produce more fats and oils; how the South can make a decided contribution to the war effort by producing more of the foods needed in the food-for-freedom program—milk, meat, eggs, vegetables—and that sound farming methods and conservation practices will help the farmer bring about these increases.

Live at Home is designed to encourage farmers to grow more foodstuff at home; a couple of cows, a litter of pigs, a flock of chickens, the orchard, the garden, will provide an abundance of milk, butter, eggs, meat, fruit, and vegetables. It further points out that living at home is not only profitable, but patriotic as well, for every pound of food produced for use at home releases that much for the men in our fighting forces.

In the how-to-do-it group are such films as the following:

The Farm Garden presents the fundamentals of garden husbandry, with particular reference to the farm garden and the national food emergency. It shows how to plan a garden, prepare the ground, when and how to plant the seeds, how to treat to prevent rot and blights; how to transplant, thin, cultivate; and to control pests and diseases, ending up with rewards of good gardening.

Hemp for Victory tells how the war cut off our supply of East Indian coarse fibers, making it necessary for American farmers to supply the urgent needs of our Army and Navy, as well as civilians, with American grown hemp. Small amounts of hemp have been grown for years in Kentucky and Wisconsin, and the farm practices of these hemp growers are shown with the idea of encouraging farmers in other states to grow hemp to meet the war emergency.

Good examples of morale-building films are:

The Farmer's Wife—A documentary tribute to the farm women of America, and an explanation of their part in winning the war. It shows the farm wife accepting the increased work and responsibilities of wartime farming with a spirit that is an inspiration to young and old alike.

Henry Browne, Farmer, shows a representative Negro farm family doing its part in the agricultural war production program, while a son trains with the 99th Pursuit Squadron near Tuskegee, Alabama. Though made primarily for Negro audiences it is also popular with white people, and undoubtedly has made for further understanding between the races.

Several of our agricultural films, produced with Spanish narration, have been used to promote friendly relations with our Latin-American neighbors.

Democracy at Work in Rural Puerto Rico discusses the agricultural resources and problems of Puerto Rico. It shows how the rural people, under democratic guidance, are improving livestock, bettering farm and conservation practices, introducing new and developing old handicraft industries, and bettering the lot of farm youth through 4-H Club work.

Los Clubs 4-H en el Suelo de Coronado portrays the activities of Spanish-American 4-H Clubs in New Mexico and includes scenes illustrative of the agriculture of the American Southwest.

The foregoing types of films have been aimed primarily at the farmer. Others are designed to meet the needs of the public in general for information on the food situation. For instance, a film, *It's Up to You*, goes into the whys and wherefores of the point-rationing system and the evils of the black market in meats. *Canning the Victory Crop* shows in detail how to can fruits and vegetables, and *Dehydration* shows the advantages that have accrued through the development of the dehydration industry as a war measure, and what it means to our food economy of the future. Another film in production discusses the ways and means of storing the surplus from victory gardens for winter use.

The Department's own films are not made specifically for use in foreign countries. However, the Coordinator of Inter-American Affairs has reëdited and translated a large number of our films into Spanish and Portuguese, and we are now about to begin production of 10 subjects for the State Department for issuance in Chinese. The Canadian and British governments have also duplicated our films for distribution in those countries. Sweden, South Africa, India, Egypt, and China also have acquired prints or duplicate negatives. In fact, without promotion of any kind, Department of Agriculture films have reached into practically every country in the world, the axis and occupied countries, of course having had access to them before the start of the war.

Our own Spanish-speaking population of the Southwest has not been forgotten. Many of these still use the language of their ancestors. To reach them in the language they understand best, several films in the Spanish dialect of the region have been made.

The Department of Agriculture, however, has not been alone in the production of films for the war food program. Britain and Canada have been wide awake to the need for motion pictures in informing their people concerning the food problems, and have produced numerous training and informative films that are now being circulated in this country. Among them are *Food — Weapons of Conquest*, which brings out clearly the importance of food in this war; *The Battle of the Harvest*, showing Britain's and Canada's food production efforts; *Mrs. T. and Her Cabbage Patch* and *Dig for Victory* on the planting and care of gardens; *Fighting Fields*, showing how Scotland had increased its yield from the soil; *Dinner at School*, *Miss T.*, and *Eating at Work* on diets and nutrition, and many how-to-do films on a variety of subjects, such as the care of poultry, clearing land, storing vegetables, rabbit raising and even how to spade up a garden. Such films have undoubtedly been of tremendous help in making the British Isles more nearly self-sufficient so far as food is concerned.

Industry, too, has taken a leading role in producing motion pictures to help solve the farm and food problems created by the war. Many excellent pictures have been made by industry, and it is noteworthy that most of them are devoid of advertising plugs that unfortunately in the past have made many otherwise excellent pictures unacceptable to many groups. I shall mention but 2 or 3 of them, not as best examples, but simply to illustrate how industry is cooperating in the war effort on the food front producing films on the subject matter foreign to the business in which they are engaged. Soldiers of the Soil, a 3-reel film by the du Pont interests, is an excellent exposition of the reasons why farmers of draft age should remain on the farms until or unless they are inducted into the armed forces. Through the dramatic appeal of a blinded soldier, the young farmer is made to feel that he is engaged in the production of what our President has said is a decisive weapon of war, that his training and experience are needed on that production line, that he may hold his head high in the knowledge that he is truly a "soldier of the soil."

In the field of nutrition, the Westinghouse Company's film, *This Too Is Sabotage*, does a good job of selling the fact that a well-balanced diet is essential to health and happiness. This film is shown to employees in over a thousand war plants. The lunch hour is a favored time. Pre-shift showings to early arrivals are well attended, though many prefer to stay after a shift. The Ralston Purina Company has produced *Twenty Fighting Men*, an inspiring story of farm management and of the potentialities of increased livestock production through efficient feeding methtods. Of course, this is for farm groups, and it is said to have worked wonders in the areas where it has been shown. None of these films contain advertising matter, simply the name of the company as the sponsor.

(Continued on Page 137)

G-E Photoflash Movie Is Hailed by Photo Experts

RELEASE of a new educational sound-on-film movie featuring the technical aspects of flash photography has just been announced by Photolamp Division of General Electric Company at Nela Park, Cleveland.

The 3-reel, half-hour vehicle—processed in 16mm. and 35mm. sizes—is intended for immediate use by photographic schools of all branches of the military services. It is also designed to educate countless professional and amateur photographers on how better flash pictures may be taken.

Previewed by photographic experts of the armed forces at Washington, D. C., at Wright and Patterson army air fields at Dayton, Ohio, the film made its formal debut recently at Roosevelt Hotel, New York City.

Attending the premiere were members of the trade and daily press and key representatives of the photographic industry. Critics hailed the new film as an effective tool in educating photographers on the matter of using flash more intelligently.

Split-second action of modern high-speed camera shutters and brief flashes from photoflash bulbs have been slowed down to an easily visible "crawl" in the picture. The slow motion sequences permit the human eye to "take its time" in following the swift action of various camera shutters, of the performance of popular flash bulbs, and of high-precision timings. This has been achieved through adroit use of extremely high speed motion picture photography.

To partially "freeze" the lightning-fastion action of shutters and flash bulbs, the producers were compelled to film some of the sequences at speeds running up to 3000 frames per second. Photoflash, incidentally, provided the tremendous amount of light required.

The new sound movie features the operations and characteristics of between-the-lens and focal plane shutters, various midget flash bulbs, and the relative merits of sundry reflectors—all with relation to one another. Detail action is shown through deft use of animation.

Photographic "stills," it was pointed out at the film's premiere, are playing a significant role in virtually all operations of the armed forces. Countless flash pictures are being taken by the military for public consumption as well as for illustration in connection with case histories of all kinds.

The new G-E photoflash movie was co-ordinated and produced by Loucks & Norling Studios of New York City. The high-speed sequences were made by Henry Lester, widely known photographer and technician for the Morgan & Lester firm of New York.

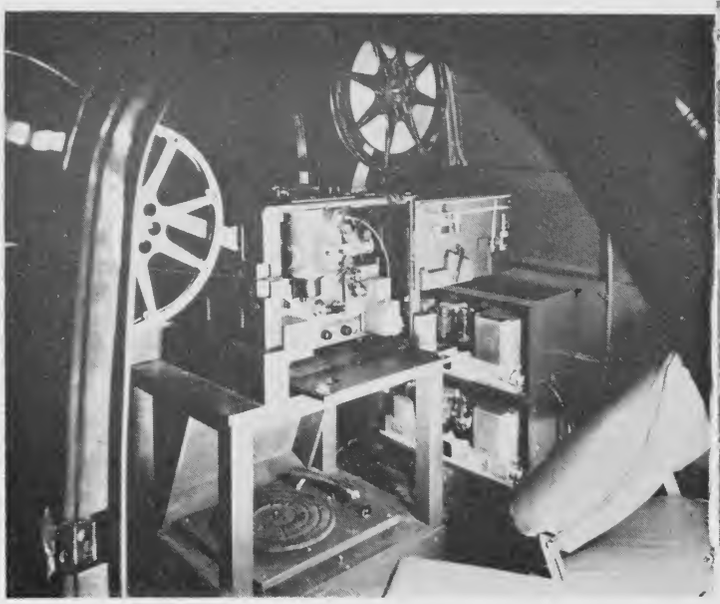
Script for the film was written by G.E. Lamp Department's P. A. Carson, Frank E. Carlson and Don Mohler. The entire production was supervised by O. H. Young, manager of the Photolamp Division of G.E. at Nela Park.

Harvard Film to B & H

A notable historical film, THREE CENTURIES OF MASSACHUSETTS, produced by Harvard University and narrated by Prof. Albert Bushnell Hart, has been sold to the Bell & Howell FILMOSOUND LIBRARY. The film is at present eight reels in length, and will be cut down and re-edited by the new owners. Meanwhile the original eight-reel version continues to be available through the same source.

Railroad Picture

THE STEAM LOCOMOTIVE, a new sound motion picture dramatically describing the mightiest self-moving power plant yet built by man, has been released by the New York Central System, running 720 feet, 16mm. black and white. The film follows THE FREIGHT YARD as the second in a series designed to show "behind the scene" phases of modern railroading.



Above is group of mobile Filmosound Units used by Royal Canadian Air Forces. At left is view of equipment within the truck.

Filmosound Replaces Military Bands

THIRTY-TWO Royal Canadian Air Force stations in Canada each have a band—without the benefit of bandsmen and instruments!

Soon, by means of motion picture film, all air force stations across Canada will have this same type of mechanized band music, played by the outstanding band of the RCAF for as long as forty-five continuous minutes, and more ably presented to a larger group than ever before.

The answer to this enigma lies in still another wartime use of motion picture film—the broadcast of martial music on a Bell & Howell Filmosound for the entire regiment.

The Filmosound unit is demountable, and can be used to project motion pictures with sound accompaniment in barracks, doubles as a public address system, and is an over-all unit with entertainment and educational utilization. The currrent news is broadcast to the entire forces; the officer in charge can deliver his orders by means of the Filmosound public address system; and route marches, ceremonial parades, drill ground training, and lectures now reach the boys in the RCAF via the miracle of B&H motion picture equipment.

Ansco Gets "E"

EMPLOYEES of Ansco, manufacturer of photographic materials, have been awarded the Aarmy-Navy "E" for "great accomplishments in the production of war equipment." This announcement was made recently by Under Secretary of War, Robert P. Patterson.

Formal presentation by representatives of the Army and Navy was made at Ansco in Birmingham, New York on March 27th.

Exxpressing his confidence that the company's outstanding record will bring victory nearer by inspiring others to similar achievements, the Under Secretary of War said, "The award symbolizes your country's appreciation for the achievement of every man and woman of Ansco."

Since Pearl Harbor approximately 75 percent of Ansco's production has been for the government and essential war industries. Its vast camera plant is now engaged 100 percent in the manufacture of precision instruments for the Army Air Forces and the Navy. Included in its wartime production are sextants which permit fliers to determine their position anywhere over the earth's surface under all weather conditions.

Another device in production for some time is the driftmeter which automatically computes wind drift and is used by aerial navigators to keep their planes flying proper courses. Ansco Color Film, the first such film which can be developed in the field, has also been an important contribution to the armed forces.

Agricultural Motion Pictures and the War

(Continued from Page 134)

With the start of the war, the country was faced with the need of converting not only its industry but its agriculture to the needs of war. At no time in history had we been faced with such a stupendous task. In agriculture it meant that some 35 million farmers were to be stimulated to productive activity along planned lines. It was a job made to order for motion pictures. We planned plans and dreamed dreams of what could be done, if funds were made available with which to produce pictures to help create this vital weapon of food in ample kinds and quantities. But right here we had our first taste of priorities! Our studio and laboratory and 14 members of our production staff were taken over by the Coordinator of Information (now the Office of Strategic Services) for more vital needs. This left the Motion Picture Service of the Department of Agriculture with a skeleton staff, inadequate production equipment, and no suitable working space. However, we did have some cameras, editing equipment, and trucks and with this as a nucleus we rented a building vacated by the Paramount Exchange in Washington and proceeded with our production from there.

All government work, of course, is dependent upon action by the Budget Bureau and Congress, and it was deemed necessary to reduce the appropriation for motion pictures of the Department of Agriculture. With the smallest appropriation in years we are striving to do an enormous wartime job. Our film activities of course have had to be reduced, and now the program of the oldest motion picture service in the government is a pigmy as compared with programs of the Army, Navy, and the Office of Education. However, we manage to produce about 20 pictures a year.

At present the Department's production staff consists of 11 directors, editors, cameramen, and technicians. This staff does necessary research work, writes scripts and scenarios, photographs, and edits the pictures. Sounding, optical work, cartoon, animation, and all laboratory work are done under contract. While not so satisfactory in some respects as having this work under immediate supervision under one roof, it has certain distinct advantages in that last-minute changes, which so frequently would hold up production, are not so easily made.

Our 30 years of experience have taught us the necessity of having script fully prepared and approved before production begins. We have worked out a procedure, therefore, that we endeavor to follow as far as practicable in every production. The first step is the preparation of a so-called Project Proposal, which is designed to bring out (*1*) the subject matter to be covered, (*2*) the purpose of the film—what it is hoped to accomplish, (*3*) the wartime significance of the subject, and (*4*) a synopsis of the treatment. When a film is proposed and sponsored by an agency of the Department, or where the film contains specific subject matter, the script is carefully reviewed by subject matter specialists and finally approved by the Director of Information of the Department before shooting is begun.

Most of the scenes for Department pictures are, of course, taken in the country, though urban activities are by no means out of the picture. It is surprising how agriculture touches the lives of all of us. Our food, our clothing, and the houses we live in come from our farms and forests. So the problems of agriculture are not the problems of the farmers alone. They concern each and every one of us, for if the boll weevil destroys the cotton crop, we lack cloth, if the foot and mouth disease should destroy our cattle, steaks would be curios instead of rarities, and if we permit forest fires to destroy our trees, our lives would be handicapped from cradle to coffin.

But to return to our subject, a field photographic crew usually consists of 2 to 3 men, director, cameraman, and assistant. Where technical subjects are to be filmed, a specialist makes a fourth member and if sound on location is required, a sound crew of 2 men completes the crew. General locations are selected in advance, but it is up to the crew members to make detailed arrangements on the spot.

Shooting finished, the director with the assistance of the cameraman proceeds to edit the picture and complete the final script. Music may be furnish-

(Continued on Page 138)

Little Beggar

New Color Release

RELEASE of the color motion picture EMPIRE ON PARADE has just been announced by The Princeton Film Center, of Princeton, New Jersey.

Telling an absorbing story of the immense resources of the Northwestern area of this country served by the Great Northern Railway, the film is an inspiring document of a vast section of the nation now supplying many of the essentials of war.

EMPIRE ON PARADE is 40-minutes in length. Sixteen millimeter sound prints in full natural color may be secured by writing directly to The Princeton Film Center. Users are asked to pay only a nominal service charge and transportation costs.

Enough steel to make two battleships is produced every month by the open hearth furnaces at the Rouge plant of the Ford Motor Company.

Agricultural Motion Pictures and the War

(Continued from Page 137)

ed under contract or selected and arranged by our own staff. Recording may be done under contract or by our own sound recording unit, depending upon where desired talent is located. The finished picture is then presented to various interested agencies for final approval. Usually, if the steps outlined above have been followed, acceptance is unanimous, but occasionally haste or some other element has permitted a false note to creep into the film. However, all these safeguards make it fairly certain that revisions, if necessary, will be minor and that the picture is true, factual presentation of the subject covered. For incentive, morale-building, and certain other types of films where subject matter is not of first importance, the treatment varies, of course. Such films may be a combination of field and studio shots, acted and real life scenes, and cartoons.

Not all films are made by the Department's own staff. A production contract is entered into each year with some commercial producer as a result of bids. Last year 4 pictures were made under contract with Wilding Picture Productions, Inc., of Chicago.

Distribution of Department films is conducted principally through nontheatrical channels, the primary aim being to reach adult farm audiences. However, because of the wide application of many of the subjects covered, theatrical distribution also is obtained on some of the films. And, of course, prints are sold. Under contract with the Department, Castle Films handles these sales.

The nontheatrical distribution is conducted through various field offices of the Department, the state extension service, and through some 50 film libraries of universities and colleges.

Theatrical distribution is cleared through the OWI.

The number of prints made available for distribution varies with the funds available. Usually, on films having general application, 100 16-mm prints have been placed in distribution.

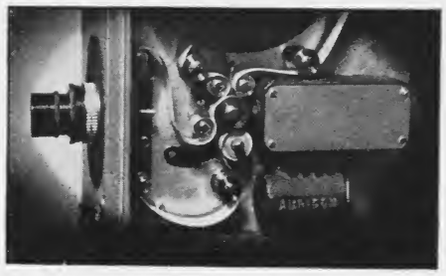
In closing, I would like to say that motion pictures are doing a great deal to help agriculture in its war job. Judging by audience reaction, the millions who see these films most certainly are helped and informed and fortified in their determination to carry on, come hell or high water. Though the Department's own film activities have been limited by small appropriations, the British and Canadian governments and American industry have filled the breach to some extent. However agriculture at war presents an unlimited field for training and instruction by motion pictures that not only will fashion a vital instrument of war, but will help to create a countryside where soil fertility is maintained by contour plowing and terracing; where sleek animals feed in lush pastures, where tree planting is restoring the water level in spring and stream, and wild creatures again have a cance for life; where winds no longer are permitted to carry away the top soil, and gullies are a thing of the past; where the water is clear and the air is pure; and where a farmer may be proud of his job. Such is the kind of America that agriculture films can and should help to fashion.

Heavyweight Lou Nova Is a Movie Maker

Fistically-capable Lou Nova is photogenic in a great big, ruggedly courageous he-man way—he is also a movie-maker of no mean accomplishments. For his fistic prowess, it will be remembered that Lou gives considerable credit to the art of Yogi. For his movie-making achievements, Lou pays generous tribute to his 16mm. DeVry equipment. With Lou and the eager youngsters at his Van Nuys home is shown DeVry's genial west-coast representative, Joseph E. Norman of Hollywood.

Auricon SOUND CAMERA

for 16 mm sound-on-film



★ High Fidelity Sound

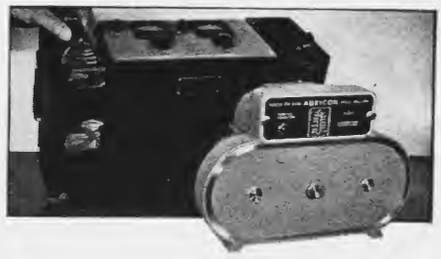
★ Self-contained in sound proof "blimp."

★ Minimum equipment; maximum portability. Camera and Amplifier, complete, weigh only thirty-seven pounds.

★ Kodachrome or black and white pictures with Auricon sound track will reproduce on any sound-film projector.

★ Can be operated in the field from an Auricon Portable Power Supply.

★ Auricon Camera with type "C" lens mount (but without lens) and Amplifier complete with microphone, instructions, and cases $880.00



AURICON 16 mm RECORDER

★ Variable-area sound on film, for double system recording with a synchronous motor driven 16 mm. camera. Amplifier has background-noise reduction and mixers for combining speech and music. With dynamic microphone, instructions and cases for Recorder, Amplifier, Accessories $695.00

★ **Auricon 16mm. sound-on-film recorders and cameras are serving the Nation's War effort with Military and Government Film Units, and with civilian organizations producing essential morale and industrial training films. If your work in such fields makes you eligible to purchase new equipment, we invite you to let our engineers show you how Auricon portability and professional performance will simplify your recording problems.**

AURICON *Division,*
E. M. BERNDT CORP.
5515 SUNSET BLVD., HOLLYWOOD, CALIF.

MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

Ampro Expands Plant For Post-War Business

ENGINEERING research at the local factory of Ampro Corporation has brought to an advanced stage of planning a series of 16mm. projectors, as well as 8mm. models, which will play a major role in the post-war motion picture field.

Currently, Ampro, as has been the case since Pearl Harbor, is operating under a blanket directive from the Government which calls for the full facilities of the firm for supply of such projectors and their accessories to the armed forces, as well as to other channels held essential to victory.

Principal accent has naturally been upon the 16mm. sound models now in service in every sector of the globe. Incorporation of refinements for exacting overseas use under all conditions of climate and transportation has rocketed the new Ampro precision equipment to a degree of perfection which, it is pointed out, will benefit all post-war users, not only in the educational and kindred fields, but also the commercial motion picture field.

Improvements within spheres of projection lighting and optics, and in the engineering of 16mm. units themselves, indicate that many film houses throughout the country, as well as abroad, will, after the war, be able to utilize 16mm. projectors to great advantage.

Letters from the Battle Fronts

AT the present time there are 38 members of the American Society of Cinematographers in the armed services. They are scattered all over the globe. From time to time we hear from them and pass their letters on to the readers of the Cinematographer. This month we have messages from Captain Lloyd W. Knechtel of the Signal Corps and Major Elmer Dyer of the Army Air Forces.

Captain Knechtel says:

Just a note to say hello and to let you know I have been in Italy since the fall of Naples last October. Am in charge of a photographic unit over here and we have seen our share of action. Several of the photographers have been killed in bombings and from artillery fire, and several have been wounded. I suppose the close ones don't count—and there have been plenty of close calls experienced by all of us over here. The going is plenty tough in the mountain fighting and the Sauer Krauters are giving the Allied troops some stubborn resistance. There has been lots of rain and mud and now we have the bitter cold that makes me think fondly of the virtues of good, old California.

Best wishes and good luck to my fellow A.S.C. members,

Major Dyer believes in brevity. He writes:

Just a line or two to say hello! Hope everything is going all right over there. It's plenty tough at times over here. Please give my best wishes to the boys at the A.S.C. I expect to return to the States in about thirty days although I can't tell for sure. We are making a big film here and it will be for release to the public about next summer. It's really colossal.

British Information Services Announce New Sound Films

THE British Information Services have just announced the new 16mm. sound film releases of its film division which are now available for either purchase or rental. For information regarding rates, etc., write to the Film Division, British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. List of new releases follows:

"LETTER FROM IRELAND"

(As Distributed to U. S. Theatres by Paramount Pictures)

What your boy and thousands of other American soldiers are doing over there. How they are trained, their living conditions and the recreations they crowd into their off-duty hours.

"CAMERAMEN AT WAR"

A tribute to the men whose job it is to get the action onto film. It shows them in action, armed only with their cameras, and some of the famous scenes they have shot right in the forefront of battle.

"UP PERISCOPE"

The tense story of a British submarine on patrol in the North Sea. An enemy ship is successfully attacked. The submarine dives and awaits the counter-attack from destroyers.

"TANK PATROL"

A dramatization of the story of a tank and its crew, stranded in the desert after an action. How they elude the surrounding enemy and rejoin the British lines.

"COME AGAIN"

From different parts of the Empire to England, which they had left many years before, come three men of the fighting services. They discover how war has altered a country which they once believed would never change.

"NATIONS WITHIN A NATION"

How the exiles of the nine European nations which now have their recognized Governments in London carry on their own national life and maintain some of their national institutions in Britain.

"AIR OPERATIONS"

Two-reel version of *Target for Tonight*. Suitable for short war-plant shows.

BRITISH FILM MAGAZINES

A new series containing striking and unusual items of information from all corners of the home and war fronts, from the production line to battle.

Number 1

Good News for Spiders

Spiders' webs become threads for gunsights.

Bases for Bombers

Making runways out of mud flats for U. S. and British bombers.

Ancient Craft Joints Warfront

Charcoal burners become essential war producers.

(Continued on Page 142)

New British Films

(Continued from Page 141)

Number 2

Science Versus Sand

How filters help planes and tanks fight desert warfare.

Factory Front

Housewives working part time in factories to speed production.

Tugboat Annie

A famous Hollywood property turned into a weapon of war.

Number 3

Camouflage

Fisher folk make nets to hide the guns.

Food Front

Priority treatment for women war workers at the stores.

Turn Around

Dock workers speed up for victory.

Number 4

Ply in the Sky

An exciting account of how the world's fastest plane, the British Mosquito, is built from laminated Canadian birchwood.

A Cautionary Tale

An amusing cartoon with a moral in rhyme—bringing home to war workers the danger of blood poisoning from neglected minor cuts.

Props

British forestry helps the war effort —young spruce and fir trees are felled to make much-needed pit props for the mines.

Number 5

Diamond Cut Diamond

British girls in their teens are already doing an important war job, mostly under the microscope, by making diamond dies for drawing very fine wire.

Song of the Islands

West Indians in London broadcast to their far-off homes a song about themselves in their traditional Calypso style.

Showdown

Fascinating details of the making of anti-tank mine detectors, equipment which saves thousands of lives of our advancing armies.

New du Pont Plant

CONSTRUCTION has started at Towanda, Pa., on a new du Pont Company Patterson Screen Division plant which will manufacture luminescent chemicals.

The Patterson Screen Company, acquired by E. I. du Pont de Nemours & Company last July, pioneered the manufacture of fluoroscopic and X-ray intensifying screens, and has operated its present plant here since 1914.

C. V. S. Patterson, manager, said today that the new plant is expected to be completed at an early date and will make phosphors in sufficient quantity to assure American industry of an adequate supply of the type of materials hitherto imported solely from Levy & West, London, England.

New Filmosound Releases

POT O' GOLD
No. 4592 8 reels

Light-hearted nonsense intermingled with equal quantities of hit tunes and ably put across by favorites should make POT O' GOLD unusually popular. Happy-go-lucky nephew of a rich manufacturer of health foods finds romance and adventure on the air waves. "The picture is especially recommended to all who like something decent, care-free and propagandaless."—Motion Picture Review. (James Stewart, Paulette Goddard, Horace Heidt and Charles Winninger.)

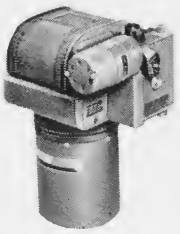
WHO DONE IT? (Universal)
No. 2442 8 reels

Abbott and Costello, Hollywood's best-liked and best-patronized comedians are again on the run. The story, a murder mystery, placed Bud and Lou in the hazardous profession of amateur detectives. A howling travesty on murder-mystery dramas. (Bud Abbott, Lou Costello, Patric Knowles, William Gargan, Louise Allbritton.) Available from May 6, 1944, for approved non-theatrical audiences.

Summer

You press the button . . . it does the rest

Kodak's K-24 Aircraft Camera is completely automatic. In reconnaissance, you push a switch button on your "stick" and the camera, in the nose or tail, clicks away. In a bomber, it is in the plane's belly, connected, through complex electrical controls, with the bombsight itself. Its focal plane shutter, power operated, has speeds of 1/50, 1/450, 1/900, and "time." It is fitted, as are most other aerial cameras, with Kodak aerial lenses, including Kodak Aero Ektars incorporating elements of Kodak's revolutionary new optical glass . . . interchangeable in a range of focal lengths and speeds for different missions. Uses Kodak Aero Films in prethreaded interchangeable magazines holding 56 feet, enough for 125 pictures, 5 inches square.



K-24 Aircraft Camera, built by Kodak, *"runs its own show"*

Bombardier, at left, is hunched over his bombsight which is electrically coupled with the camera, automatically taking pictures every time bombs are released. At right is a gunner covering the nose with his "fifty."

TANGLING with fighters and flak while making a bombing run . . . or scurrying over enemy country at low altitude on a reconnaissance job . . . the last thing you have time for is "keeping a snapshot record of your trip."

Yet in reconnaissance, that's really what you're out for—and in bombing, you want to bring back "picture information" on the relation of your falling bombs to the target . . . for the camera makes a record of details you couldn't possibly see and remember.

Pretty hopeless, without a camera that "runs its own show" . . . Kodak's K-24 does just that.

On a reconnaissance flight—with no bombs to unload—you press a button for each picture, operating the fixed-position camera by remote control. Or, if you want a series, simply hold the button down, and the camera takes 3 pictures a second.

"Chalking up the score" in the training of bombardier and pilot is another vital phase of the K-24's activity—to know how good you're getting to be, you consult the photographic evidence.

The K-24 is no hero—the pilot and crew play that role. But it does take a lot off a hero's mind.

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

REMEMBER THE PLOESTI RAID?—how at the cost of more than 500 trained fliers, our Liberators fought through one of the most heavily fortified areas in the world, to drop the bombs that knocked out one-third of Germany's oil supply?—how some of the pilots who missed the target on their first run turned back and flew through solid sheets of flame to try again? A stern example for us at home.

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What you see... you get ...to have forever

Filmosound V···— is a triumph of B&H engineering. It maintains traditional performance standards despite restrictions of critical materials. Available now only to the armed forces, and for other essential purposes according to prevailing government directives. Send for the new Filmosound V···— Circular.

HE'LL take those first faltering steps just once . . . the endearing little actions are so fleeting in his rapid growth . . .

But movies can capture all those moments and *re*capture them again and again at your command.

Most people say they get the best results with Filmo Cameras and Projectors. They say we make the finest home movie equipment in the world.

We say Bell & Howell equipment will be even finer after Victory . . . after we return to making peacetime things.

For we've discovered many improvements through our successful combination of three sciences—OPTIcs, electrONics, mechanICS.

This combination, OPTI-ONICS, will give new meaning to the famous phrase, "What you see—you *get.*" The memories you record will create an "illusion of presence" both in sound and motion more true to life than ever.

Look forward, then, to OPTI-ONIC Movie Cameras and Projectors. Expect them to be even finer than the "finest in the world" today.

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Engineers with a finished background in electronic or mechanical design can find a great future in helping Bell & Howell explore the peacetime horizons of OPTI-ONICS. Send complete details and photo to: Chairman, OPTI-ONICS Development, 7100 McCormick Road, Chicago 45, Illinois.

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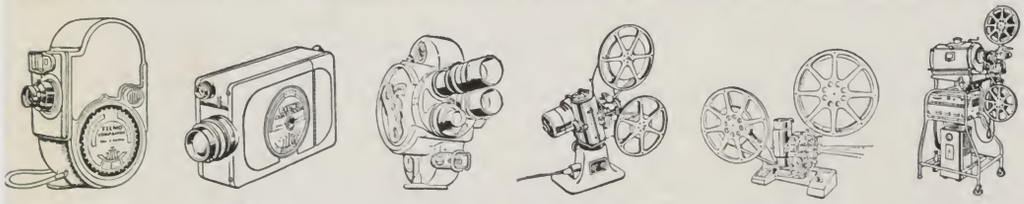

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